Review and Assessment of Labour Market Information

The International Labour Organization

THE CONSULTATION AND RESEARCH INSTITUTE

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LIST OF ABREVIATIONS

ALI	Association of Lebanese Industrialists
CAS	Central Administration for Statistics
CERD	Centre for Educational Research and Development
CF	Circonscription Fonciere
CoC	Chamber of Commerce
CRI	Consultation and Research Institute
ILO	International Labour Organization
LMI	Labour Market Information
LMIS	Labour Market Information System
MoL	Ministry of Labour
NEO	National Employment Office
PES	Public Employment Service
USJ	Université Saint Joseph
CAP	Certificat d'aptitude Professionnel
BP	Brevet Professionnel
SP	Baccalaureat Professional – Dual System
BT	Baccalaureat technique
TS	Technicien superieur
LT	Licence technique
LET	Licence d’Enseignement Technique
VTE	Vocational Technical Education
NSSF	National Social Security Funds
FAO	Fooad and Agriculture Organization
NGO	Non-Governmental Organization
HR	Human Resources
F&B	Food and Beverage
ISO	International Organization for Standardization
BA	Bachelor degrees; Bachelor of Arts
IC	Intensive Care
ELE	Electronic Labour Exchange
LU	Lebanese University
BAU	Beirut Arab University
AUB	American University of Beirut
AUST	American University of Science and Technology
LAU	Lebanese American University
MSE	Micro and Small Enterprises

EXECUTIVE SUMMARY

In preparation for the development of a Labour Market Information System (LMIS) in Lebanon, the ILO conducted an LMI assessment on available labour market information in 2009 which revealed the existence of diverse and scattered information among different governmental institutions and civic organizations. However, quality and analysis of these data were not considered back then. Hence, there was a need to further investigate on the current state of LMI in Lebanon in terms of data collection, analysis of available information, practices suitable for public dissemination and policy determination and pertaining challenges .

To carry out this mission, the CRI study team compiled and reviewed available LMI through the elaboration of two exercises: 1) the presentation of a labour force profile and 2) the design of a labour supply and demand model. The manipulation of the data through these two exercises provided a solid and systematic identification of LMI sources, availability, access, quality and information gaps. As a result, the study report comprises a profile of the labour force in Lebanon, a labour supply and demand model an attempt to have an information product on the labour market status and structure, as well as the assessment of LMI resulting from the abovementioned exercises.

The first section of the report consists of the identification of the characteristics of the labour force in Lebanon and presents general indicators mostly based on the CAS household living conditions survey, 2004. The active population in Lebanon is around 1.2 million . The activity rate is 44% in 2004 with a male activity rate of 68% and a low female activity rate of 20%, which have been relatively stagnant since 1970. The unemployment rate stands at 7.9% in 2004.

The second section of the report presents the summary of the quantification model of the labour supply and demand. The objective of the model is to assess the status of the LMI in each of the categories that make up the demand and supply in the Lebanese labour market and to produce a potential information product on the labour market.

The model, based on a set of assumptions and proxy variables due to considerable data gaps, estimates the total yearly labour supply from universities, VTE establishments and schools to stand at 61,200 individuals seeking work. On the other hand, total yearly demand from new and existing establishments as well as the new self-employed is estimated at 25,900 workers. Taking into account the total yearly migration (13,500), the total net yearly gap stands at 21,800. Adding to that the stock of unemployed (medium scenario 144,500), the gap between labour supply and demand is estimated to increase to 166,350 unemployed.

The third and last section of the report comprises a matrix that compiles the obstacles related to unavailable or unusable data identified in the prior sections of the report. The matrix assesses the quality of LMI used in the first and second section of the study, in terms of four main indicators: frequency, availability, accessibility and consistency. This exercise has generated a set of concluding remarks, which have highlighted:

- The absence of a clear strategy that informs the selections of indicators that should be included in surveys;
- The irregular timing of national surveys; the inconsistencies in the data generated by various data producers;
- The inconsistencies in the adopted methodologies and definitions of key indicators; the fragmented nature of various sources of labour demand and supply;
- The reluctance of sharing primary and often secondary data;
- The lack of transparency in the adopted methodologies of various surveys, and
- The need of an academic debate of the best way to quantify supply and demand in the Lebanese context.

The suggested actions to be taken in order to address these obstacles and to enhance the quality of LMI consist of:

- Developing a strategy for the production of national statistics;
- Establishing a dissemination strategy that maximises access to information;
- Spreading a culture of information to various potential producers of LMI;
- Performing periodic and consistent cohort studies of transition-to-work survey at various levels, and
- Developing a consumer and business confidence indicator which allows frequent updates of information.

Introduction and Objectives

1. Background

In 2008, the International Labour Organization (ILO) launched the 'Public Employment Service' (PES) project to assist the Lebanese Ministry of Labour (MoL) and the National Employment Office (NEO) in the field of employability development. The project consists of raising the levels of employment by 1) increasing the capacity of NEO in assisting the unemployed and providing employment related services; 2) improving the connectivity of key players through a general network of employment-related information and 3) promoting self-employment opportunities through the creation of small enterprises and improving the business/enterprise skills of people.

The PES project is composed of five components that are expected to enhance:
1) Employment services programs and interventions
2) Country wide labour market information system including an electronic job matching system or ELE
3) Computer assisted occupational information system for employment counselors
4) Entrepreneurship training program
5) Cadre of trainers for public employment services delivery system

As aforementioned, one of the PES components supports the development and implementation of a Labour Market Information System (LMIS), which constitutes a set of institutional procedures and mechanisms designed to produce labour market information (LMI).

2. Definition of LMI

The concept of LMI can be traced back to early ILO conventions which highlight the need for LMI. Article 1 of ILO Convention No.160 (1964) states that "each member undertakes that it will regularly collect, compile and publish basic labour statistics, which shall be progressively expanded in accordance with its resources to cover the following subjects:
a) Economically active population, employment, where relevant unemployment, and where possible visible underemployment;
b) Structure and distribution of the economically active population, for detailed analysis and to serve as benchmark data;
c) Average earnings and hours of work (hours actually worked or hours paid for) and, where appropriate, time rates of wages and normal hours of work;
d) Wage structure and distribution;
e) Labour cost;
f) Consumer price indices;
g) Household expenditure or, where appropriate, family expenditure and, where possible, household income or, where appropriate, family income;

h) Occupational injuries, and, as far as possible, occupational diseases; and
i) Industrial disputes."

At present, one can find different definitions for LMI that give broad or specific explanation. In the 1980's, the ILO broadly defined LMI as "any information concerning the size and composition of the labour market or any part of the labour market, the way it or any part of it functions, its problems, the opportunities which may be available to it, and the employment-related intentions or aspirations of those who are part of it"[1].Other recent definitions, consider the LMI as 'the total package of labour market signals, indicators and intelligence'[2].

Certain documents give a more detailed and precise definition of the LMI. An ILO research paper about LMI in South Africa consider the LMI to be "statistical and non-statistical information concerning labour market actors and their environment, as well as information concerning labour market institutions, policies and regulations that serves the needs of users and has been collected through the application of accepted methodologies and practice to the largest possible extent.[3]"

LMI comprises information regarding:

- Labour market conditions
- Data on employment and unemployment
- Characteristics of labour supply
- Demand and supply trends and dynamics
- Projections of supply and demand
- Labour market opportunities
- Education and training resources information
- Other related information relevant to labour-market decisions

Based on different definitions, this study will consider labour market information as qualitative and quantitative information on the labour market necessary for all labour market players to make well-informed decisions related to employment development.

3. What is and importance of LMIS

A Labour Market Information System (LMIS) in this context is "a set of institutional arrangements, procedures and mechanisms that are designed to coordinate the collection, processing, storage,

[1] Phan,T., Hansen, E., and Price, D., 2001. *The Public Employment Service in a Changing Labour Market*. Geneva: International Labour Office, p.57

[2] ODI, 1996

[3] Sparreboom, T., 1999. *Improving Labour Market Information in Southern Africa*, Southern African Multidisciplinary Advisory Team, ILO, Zimbabwe.

retrieval and dissemination of LMI[4]". Despite its complexity, the LMIS is an efficient and useful operation necessary for a well functioning labour market

A well functioning LMIS is a necessary aspect of an efficient and competitive labour market which is able to enhance the compatibility between labour supply and demand on both short and long term through the identification of the skills and qualifications required on the market[5]. It can assist government planners and employment services, in the formulation of national strategies necessary for employment development growth. LMIIs a starting point for the design of labour market policies and strategies to address educational gaps between men and women, wage discrimination, unemployment, saturation of one type of labour, etc.

The LMIS is also useful for the reform of education and training systems as it can help the educational institutions to respond to the changing needs of the economy. For instance, curricula can be designed to reflect or respond to the needs of the labour market.

The LMIS is needed by employers to guide their personnel policies, negotiation strategies, the timing and size of their investment decisions as well as training policies. In addition, students and job seekers can use the LMIS to develop career plans, obtain information about training opportunities and find jobs.

Efficient and effective LMIS have multiple users and are tailored to their needs. These systems, rely on diverse sources of LMI and combine quantitative and qualitative LMI, and greatly depend on political and institutional support.

4. LMIS in Lebanon

To support the development of a LMIS in Lebanon has been identified as an outcome of the PES project launched in 2008 by ILO and the Ministry of Labour.

The LMIS aims to improve national labour market information in Lebanon through the following:
- Identifying the current state of LMI delivery in Lebanon
- Producing a realistic vision of a modern LMI delivery system in Lebanon to provide a common understanding of the scope, content, and uses of an LMIS
- Developing a detailed blueprint to guide the development of an electronic LMIS
- Establishing a governance structure for the LMIS to ensure the participation of key producers, processors and users of the LMIS in the decisions regarding the system
- Purchasing and installing the necessary equipment and support software to operate an electronic LMIS

[4] Mangozho, N., 2003. "Current practices in labour market information systems development for human resources development planning in developed, developing and transition economies, EMP/SKILLS Working Paper No. 13", International Labour Office, Geneva, p.14
[5]" Conceptual Framework for an Optimal Labour Market Information System", Final Report, Upjohn Institute , Technical Report No. 07-022, December 2006

- Developing and/or transferring content and technologies from other countries to enable the operation of at least a basic electronic LMIS
- Preparing the content for an LMIS training course and delivering the course in collaboration with the NEO and other ministries.

In this context, two missions[6] were engaged to research the current labour market information capabilities in Lebanon, develop and present to the key players in Lebanon a vision of an effective and affordable LMIS and to produce a blueprint for the design, development and implementation of the system. The findings derived from both missions highlighted the need for an LMIS in Lebanon and determined the available and required capacity to develop such a system within Lebanese institutions.

The Labour market in Lebanon is not highly regulated by the government and has limited institutional structures.. It also seems that information on skills and availability of labour, sometimes collected by professional and sectoral associations, are not shared between economic sectors and are not made available for job seekers on the market. According to several ministries, business organisations and private sector bodies, labour market information is not available and it is widely believed that the government ought to take necessary measures to develop a LMIS for the use of public and private institutions and individuals.

The development of a LMIS requires the collaboration and support of various public and private sector players. The Lebanese institutions identified by these missions as major LMI key-players are NEO; MoL; MoI; MoSA; MoEHE, CERD; CAS; CoC; ALI, Labour Union and other civic organisations involved in employment services. They form the advisory committee to oversee the development of the system.

Based on the current state of LMI, the system suggested by the mission reports has seven components distributed across five areas:

- Area 1 – Labour System information
    1. Labour force information
    2. Education and Training Information
- Area 2 – Labour Demand information
    3. Business and Industry Information
- Area 3 – Labour Market Preparation and Research Information
    4. Job search and career development information
    5. Labour market research information
- Area 4 – Job Bank
    6. Job Bank (Electronic Labour Exchange)
- Area 5 – Networking with others
    7. Internet links with specific websites related to the labour market

[6] The missions were carried out for the ILO by Dr. Ralph Kellett, an expert on LMIS, in 2009.

In addition to the preliminary design of an LMIS, the missions report[7] suggested the distribution of the responsibilities of the different key players within the overall system such as the MoL, NEO and CAS. It also outlined the LMIS development steps along a specific period and specified the types of training required for the development and launching of the LMIS. In the end, in a step forward in terms of the content of the LMIS, the mission report presents a categorization of the information types required by producers, processors and users[8].

5. Objectives of the study

The missions on current status of available labour market information revealed the existence of diverse and scattered information among different governmental institutions and civic organizations. (Reference Matrix on LMI – Annex E of the international consultant report Aug 2009) The Annex E shows the current status of providers, processors and users of LMI in Lebanon, including type of data currently available. However, data quality has not been assessed yet and most of the data so far available are not presented in a way suitable for public consumption nor as a basis for policy determination. It is vital that the new LMIS for Lebanon is based on structured data and complies with international quality standards. Additionally, consultations and meetings during the PES mid-term evaluation of July 2010 showed that the lack of structured, coherent and analyzed labour market information is an impediment to the formulation of labour market policies.

Therefore and prior to the development and launching of an LMIS in Lebanon, it was necessary to compile available LMI data, analyze and prepare them for publication, e.g. through the NEO website.

While this mission report presented the situation of LMI in Lebanon in terms of providers, processors and labour market key players in addition to a preliminary design of a labour market information network, the overall objective of the following study is the review and assessment of the current status of labour data in terms of availability, accessibility and quality. Thus, the study aims at shedding light on the available information necessary for the elaboration of an extensive LMIS and then identifying the necessary efforts required for the treatment of the identified information weaknesses and gaps. The following explains the methodology followed throughout the research and presents in details the contents of each of the three sections of the study.

6. Methodology

In order to carry out the review and assessment of LMI in Lebanon, the CRI study team decided to manipulate available LMI through the elaboration of two exercises: 1) the presentation of a labour force profile and 2) the design of a labour supply and demand model. The manipulation of the data

[7] "Plan for the Development and Implementation of a Labour Market Information System (LMIS) in Lebanon", presented by Ralph Kellett to the International Labour Organization, August 24, 2009

[8] Refer to Kellett, "Plan for the Development and Implementation of a Labour Market Information System (LMIS) in Lebanon", ILO, 2009, Annex E.

through these two exercises guarantees a solid and systematic identification of LMI sources, availability, access, quality and information gaps. As a result, the study report comprises a profile of the labour force in Lebanon, a labour supply and demand model, as well as the assessment of LMI resulting from the abovementioned exercises. Accordingly, the report comprises three major sections:

Section One presents the actual situation of the labour force in Lebanon in terms of its characteristics and composition whenever data availability, consistency and accuracy allow such a task.

Section Two consists of a dynamic analysis of the match between the supply and demand sides of the labour market and their conditions.

Section Three comprises the assessment and evaluation of the available LMI in Lebanon in terms of quality, availability, frequency and gaps.

In light of the study's objectives, the Consultation and Research Institute (CRI) proposed and followed a methodology consisting of three major phases (Figure 1):

Phase I: Identification and compilation of data

The study team identified the major official sources of LMI and assembled the available information. Three main types of resources were utilized, namely national surveys, qualitative research papers, and in-depth interviews.

i. National surveys

In order to discern the major characteristics of the labour force in Lebanon, the study team attempted to identify both the oldest and most recent data available in order to allow comparison over the longest period of time. It is to be noted that the different methodologies used by various surveys and studies rendered this comparison difficult and sometimes impossible. This issue is raised in Section Three of the study.

The main sources of statistical data used in this study are:

- Central Administration for statistics. 2008. *Living conditions of households. The national survey of household living conditions 2007,* Beirut.
- Central Administration for statistics. 2006. *Living conditions of households. The national survey of household living conditions 2004.* Beirut[9].
- Central Administration for Statistics. 1998. *La population active en 1997*, August 1998. Etudes Statistiques n. 12.
- Direction centrale de la statistique. 1972. *L'enquête par sondage pour la population active au Liban Novembre 1970*, Volume 2: Tableaux des résultats, July 1972, Beirut.
- Kasparian, C. 2009. *L'Emigration des jeunes libanais et leurs projets d'avenir*, USJ. Beirut.

[9] Although *"The national survey of household living conditions* 2007" is the most recent CAS survey, the study team favours using "*The national survey of household living conditions 2004"*. "*The national survey of household living conditions 2007"* relies on a sub-sampling from the 2004 CAS survey and aims at shedding light on the impact of the July 2006 war. The 2007 CAS survey is only used when data in the CAS 2004 survey are not available.

- Kasparian, C. 2003. *L'entree des jeunes libanais dans la vie active et l'emigration*, USJ. Beirut.
- Center for Educational Research and Development (CERD), *Studies and statistics*, [Available online: www.crdp.org]
- International Labor Organization. 2010. *Laborsta,* www.ilo.laborsta
- International LaborOrganization.2010. *Key Indicators of the Labour Market*, www.kilm.ilo.org

The different national and ad hoc surveys were compiled creating a trend of data in order to be able to make the necessary comparisons which highlight the evolution of the characteristics of the labour force across the years. The used surveys cover the following years:

Table 1 Main statistical references by date of survey

Year of survey	1970	1997	2003	2004	2007	2009
Source of survey	CAS	CAS	USJ	CAS	CAS	USJ
	ILO LABORSTA					
	CERD					

ii. Qualitative research papers

In addition to the surveys, the study relied on available qualitative publications directly or indirectly related to the labour market in Lebanon. The use of this type of literature helped the team in interpreting the findings extracted from national surveys. A full list of these publications is included in the bibliography. Notable examples include:

- Consultation and Research Institute, 2004, *Micro and Small Enterprises in Lebanon*, Economic Research Forum, Research Report Series, No. 0417
- Ministry of Industry.2003. *Unemployment in Lebanon*, Consultation and Research Institute, Beirut.
- Ministry of Industry. 2002. *The Gap between the supply and demand of the labour force in Lebanon*, Preliminary Report. Consultation and Research Institute, Beirut.

iii. In-depth interviews

Following the desk review, the study team identified information gaps and conducted a series of qualitative in-depth interviews targeting major stakeholders in the different economic sectors of the country as well as experts in various fields. The interviews aimed at collecting labour market information pertaining to major sector and identifying the respective gaps. The following table illustrates the categories of stakeholders interviewed (for a detailed list of the in-depth interviews and the related checklist refer to Annex 3):

Sector	Institution / Agency
Industry	Association of Lebanese Industrialists
	Ministry of Industry
Banking	Association of Lebanese Banks
Trade	Chamber of Commerce, Industry and Agriculture of Beirut and Mount Lebanon
Construction	Syndicate of construction workers
Agriculture	Ministry of Agriculture, Department of studies and Coordination
	Comptoire Agricole
Services	Syndicate of Restaurants and Café
	Syndicate of Hotels
Health	Syndicate of private hospitals
Education	Syndicate of public schools teachers
	Lebanese American University

Phase II: Data analysis and assessment

After the compilation of qualitative and quantitative data from national surveys, qualitative research papers and the findings of the field work, the study team extracted the available information necessary for three analytical tasks:

- The identification of the characteristics of the labour force in Lebanon, including work status, occupation, sector of activity and unemployment. The used terminology relevant to the labour force differs from one source to another which renders the use of different documents and the comparison of data difficult if not impossible. In order to clarify the terminology used in this report, ILO standards were used to set a number of definitions provided in Box 1.

Box 1 Definitions of the terms used in the report

Employed consists of persons aged 15 and above who furnish the supply of labour for the production of goods and services. It refers to all persons who worked even for one hour during the reference period (a week prior to the interview of the used survey).

Unemployed are individuals aged 15 years and above who are “without work”, “currently available for work” and “seeking work” during the reference period.

Economically active population refers to the sum of the employed and the unemployed population also known as the labour force.

Source: ILO.2010.

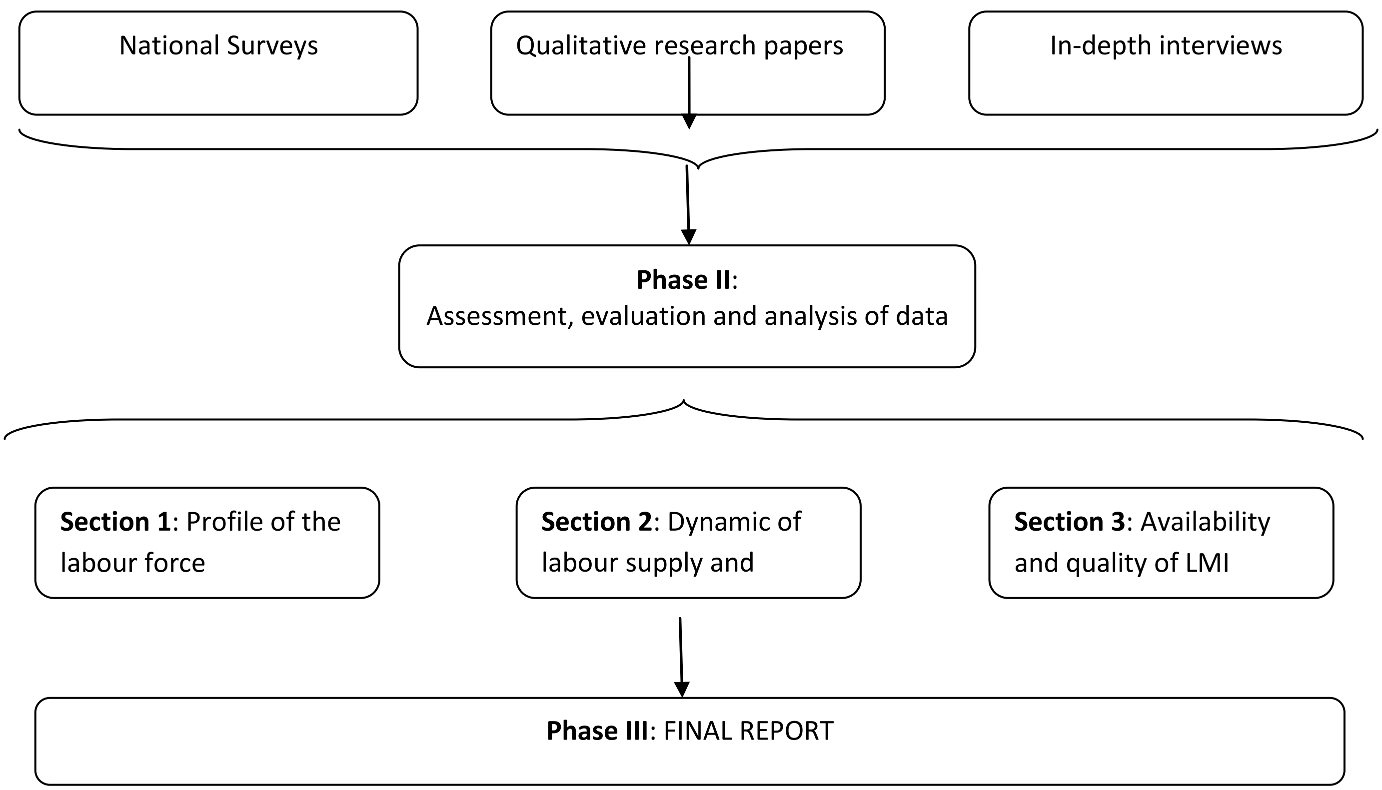
- The dynamic analysis of labour supply and demand: Based on the most recent collected data, the study team undertook the quantification of labour supply and demand in Lebanon and attempted to extract their major characteristics.
- The assessment of the availability and quality of LMI: Based on the difficulties encountered during the first two analytical tasks, the team extracted the major information gaps in terms of regularity, consistency of indicators and definitions, coverage of topics, etc.

Phase III: Drafting of the final report:

Following the completion of the analytical tasks in Phase II, Phase III consists of the drafting of the final report. The report is comprised of:

- ❖ A detailed description of the study objectives and methodology
- ❖ The findings of the analytical tasks which are divided into three main sections:
  - Section 1: The identification of the characteristics of the labour force
  - Section 2: The dynamic analysis of labour supply and demand.
  - Section 3: The assessment of the availability and quality of LMI
- ❖ Concluding remarks

Figure 1 Methodology diagram



The following section is an attempt to determine the characteristics of the active population in Lebanon and discern their evolution over the years based on the oldest and most recently available surveys. The section begins with a brief demographic profile of the population in Lebanon following which it discusses labour force participation and its determinants, followed by a profile of workers in Lebanon and finally the major characteristics of the unemployed.

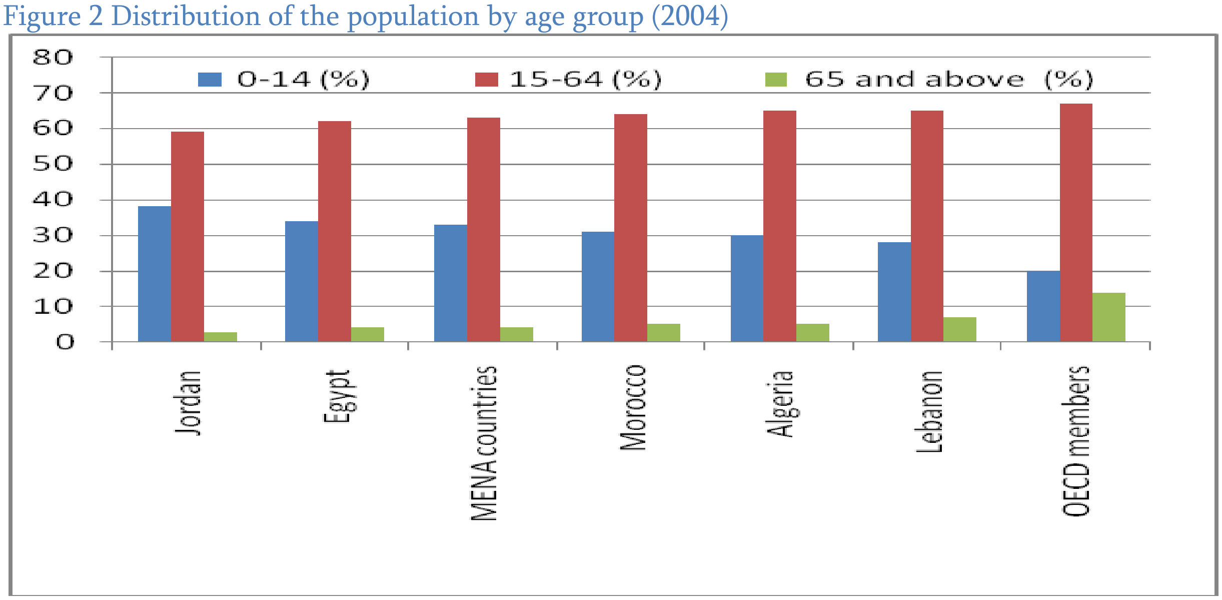
Section One - Identification of the characteristics of the labour force

1. Brief demographic overview

According to the National Survey of Household Living Conditions, the resident population in Lebanon was estimated in 2004 at 3,755,030[10]. The Lebanese residents represent 93.4% of the population and only 6.6% are non-Lebanese.

Due to the low fertility rate and a higher life expectancy (from 61 years in 1960 to 72 years in 2004), the Lebanese population is aging relatively quickly. In fact, most of MENA countries such as Egypt, Jordan and Syria have younger populations than Lebanon with a larger share of those aged 14 and below and a smaller share of those aged 65 and above. However, the share of those aged 65 and above in OECD countries is twice that of Lebanon averaging 14% of total population. The working age population in Lebanon which ranges between 15 and 64 years of age constitutes 65% of the total population (Figure 2).

Figure 2 Distribution of the population by age group (2004)



Source: The World Bank, World Development Indicators, World Databank, [Available online: databank.worldbank.org]

[10] With the exception of the population residing in the Palestinian camps.

The gender distribution shows a relative equilibrium with females representing 50.2% of the population as opposed to 49.8% for males. However, this equilibrium hides significant discrepancies when crossed with the age distribution. Indeed, a reversal of the male to female ratio takes place at the juncture between the 20-24 and 25-29 age brackets, after which females begin to consistently outnumber males (Table 2). This phenomenon may be due to the external migration for work or study purposes which affects males to a larger degree.

Table 2 Distribution of population by age group and sex (2004)

Age	Female	Males	Total	*Female to male ratio*
0-14	486,446	536,418	1,022,864	0.9
15 -19	180,232	192,795	373,027	0.9
20 - 24	182,321	190,423	372,744	1.0
25 -29	155,137	143,236	298,373	1.1
30-34	141,589	134,331	275,920	1.1
35-39	138,674	118,036	256,710	1.2
40-44	138,778	111,015	249,793	1.3
45-49	102,463	91,505	193,968	1.1
50-54	83,301	82,445	165,746	1.0
55-59	71,950	65,633	137,583	1.1
60-64	66,222	59,830	126,052	1.1
65 & above	139,599	142,652	282,251	1.0
Total	1,886,712	1,868,319	3,755,031	1.0

Source: CAS. 2006. *The national survey of household living conditions 2004*, p.104-105.

Today, men and women in Lebanon are getting married at a later age. The marriage age for men has increased to (30-34) as compared to (25-29) in 1970. Women are getting married at age (25-29) compared to (20-24) in 1970. This is one of the reasons behind the sharp drop in fertility rates which stand at 2 children per woman in 2004 as opposed to 5.1 in 1970, 4.1 in 1980 and 3.1 in 1990[11].

One of the consequences of the lower fertility rates is a smaller household size. Lebanon counts around 880 thousand households consisting on average of 4.3 individuals, down from 5.4 individuals in 1970. The family in Lebanon has a nuclear structure comprising a head of household, a spouse and children. The number of children per household has decreased from 3 to 2.2 since 1970. Smaller households of one, two or three members are concentrated in Beirut with respectively (9.2%), (18.7%) and (18.1%) of total Beirut households.
More than half of the population is concentrated in Beirut and Mount Lebanon while the remainder is distributed among the governorates of the North (20.5%), Bekaa (12.5%), South

[11] The World Bank. *World Development Indicators*. Available online: http://databank.worldbank.org [Accessed on February 18, 2011].

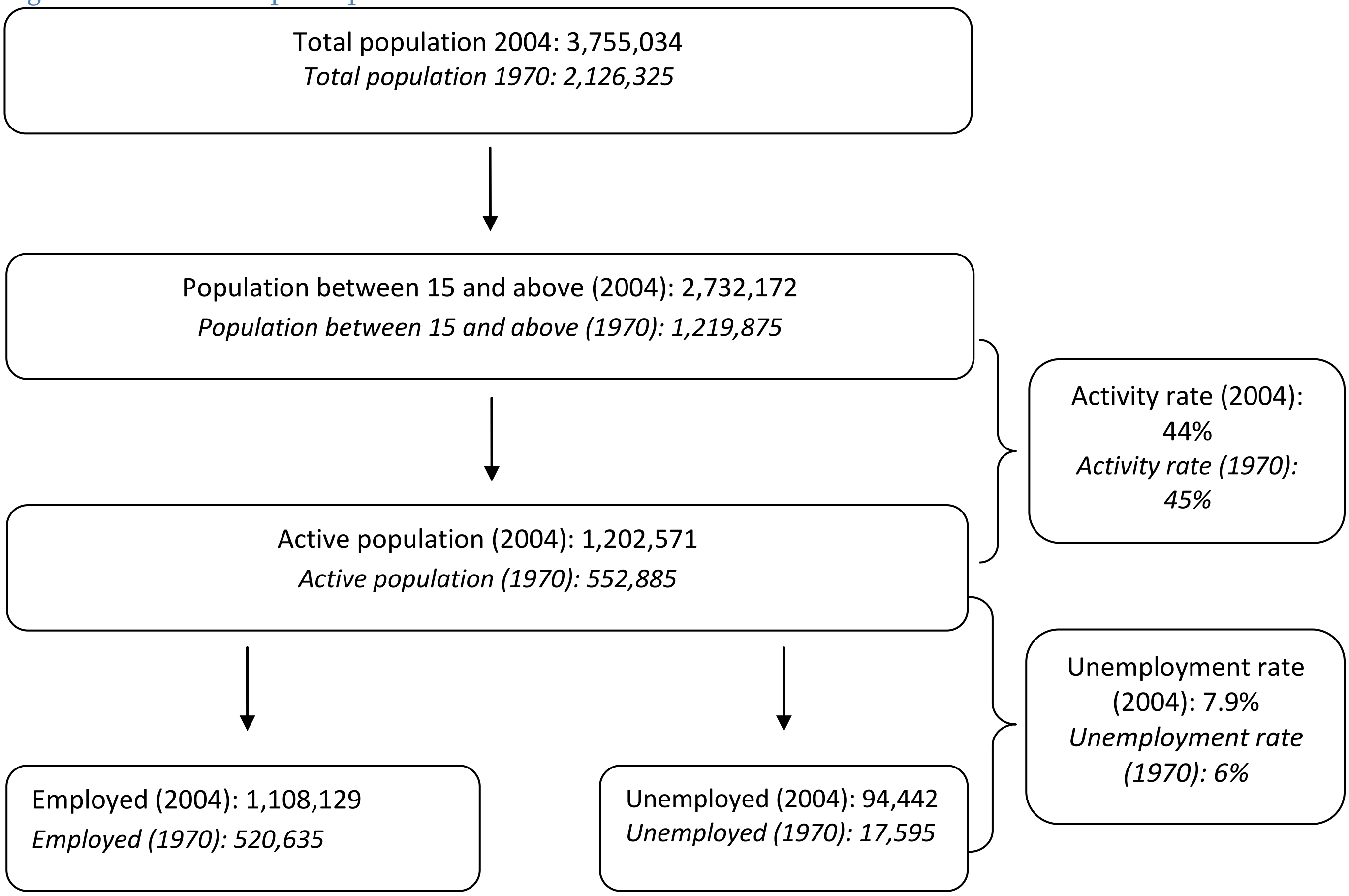
Lebanon (10.7%), and Nabatieh (5.9%). Nevertheless, the concentration in the central areas of the country has recently been declining. The residents of Beirut have considerably decreased from 22% in 1970 to 10% in 2004. On the contrary, the residents of South Lebanon and Nabatieh have increased from 12% in 1970 to 17% in 2004.This increase may be due to the liberation of the South of Lebanon in the year 2000 allowing the return of southerners who had fled during the war. The population shares of the Bekaa and North Lebanon remain almost the same.

In conclusion, this demographic overview reveals a moderately young population with increasingly smaller nuclear families along with lower fertility rates and delayed marriage for both genders. This phenomenon is more significant for women whose delayed age of marriage and lower fertility makes them in theory more available for work outside home. Finally, the continued concentration of households in Beirut and Mount Lebanon means increased pressure on this central area in terms of services and job creation.

2. Labour force participation

According to the 2004 household survey, the active population in Lebanon was estimated at 1.2 million which implies a total activity rate of 44%. In 1970, the labour force was of 552 thousand out of a total potentially active population (15 and above) of 2.1 million, i.e. an activity rate of 45.3%. This indicates that the activity rate in Lebanon has remained relatively low and static for the past 30 years (See Figure 4).

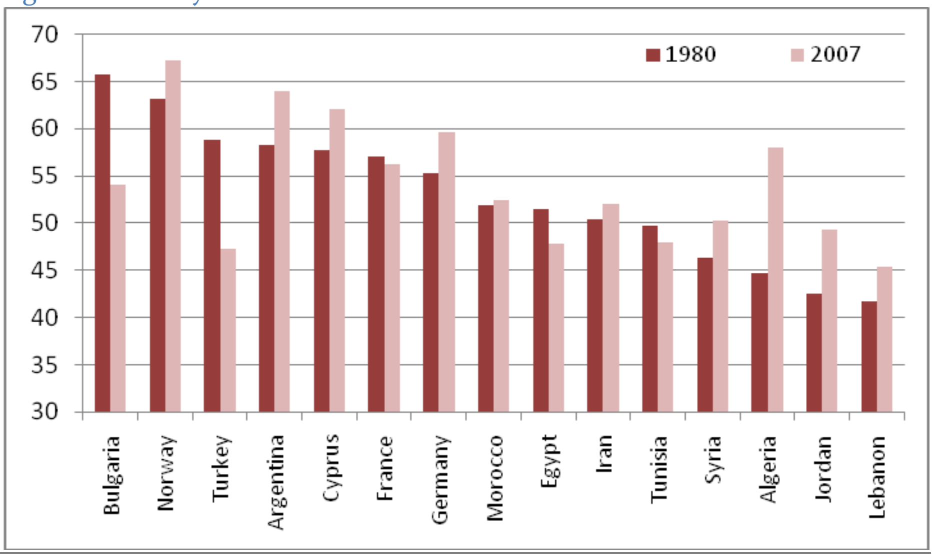
Figure 3 Labour force participation in Lebanon 2004-1970



Source: Direction centrale de la statistique. 1972. *L'enquête par sondage pour la population active au Liban Novembre 1970*, Volume 2 : Tableaux des résultats, July 1972, Beirut. Central Administration for Statistics. 2006. *Living conditions of households. The national survey of household living conditions 2004,* Beirut

Compared to other countries that vary in terms of economic development, geographic location and cultural backgrounds, the activity rate in Lebanon is weak and lower than most of MENA countries such as Jordan (49%), Syria (50%), Morocco (52%) and Algeria (58%) (Figure 4). In addition, the activity rate in Lebanon seems consistently low across a span of three decades (Figure 5). Typical of countries with low activity rates, the major reason is the fact that women remain largely outside the labour market.

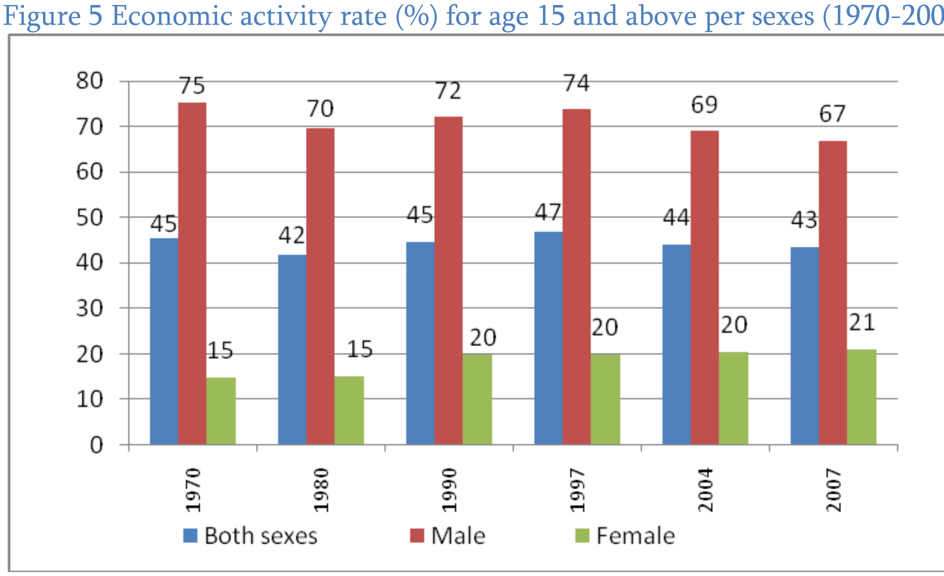
Figure 4 Activity rate of a selection of countries 1980-2007



Source: ILO. 2010. KILM [Available online: www.kilm.ilo.org]

Indeed, Lebanon's weak activity rate of 44% hides significant discrepancies between a constantly high male activity rate (68%) and a low and a relatively stagnant female activity rate (20%) in 2004. The activity rate of women in the labour force has only slightly increased from 15% in 1970 to 20% in 2004. The same gender discrepancies were noted in 1970 with a labour force participation rate of 75% for males and 15% for females[12].

Figure 5 Economic activity rate (%) for age 15 and above per sexes (1970-2007)

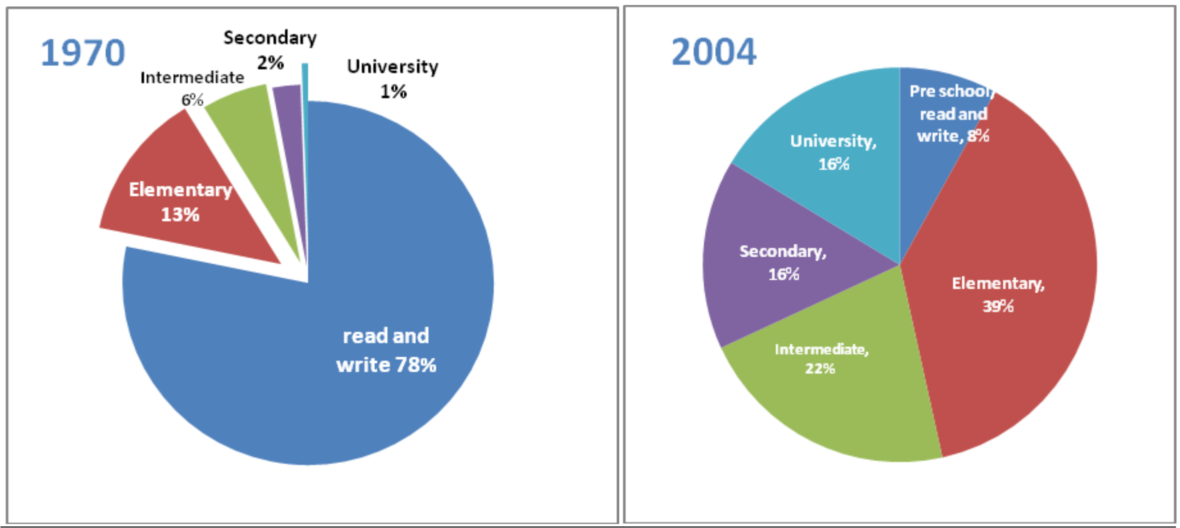


Source: ILO, Laborsta for years 1980, 1990 and CAS for year 1970, 1997, 2004, 2007

[12] Direction centrale de la statistique. 1972. *L'enquête par sondage pour la population active au Liban Novembre 1970*, Volume 2 : Tableaux des résultats, July 1972, Beirut. p.106.

Moreover, female participation has remained relatively low despite higher educational levels (Figure 5), delayed marriage rates, and lower fertility rates in comparison with the seventies. In 2004, only 21% of women could only read and write compared to 78% in 1970. Also, the share of women with a university degree increased from 1% in 1970 to 15% in 2004 (Figure 6). The absence of any data on the activity rate by gender and educational attainment precludes any conclusions about the effect of education per say on female labour force participation.

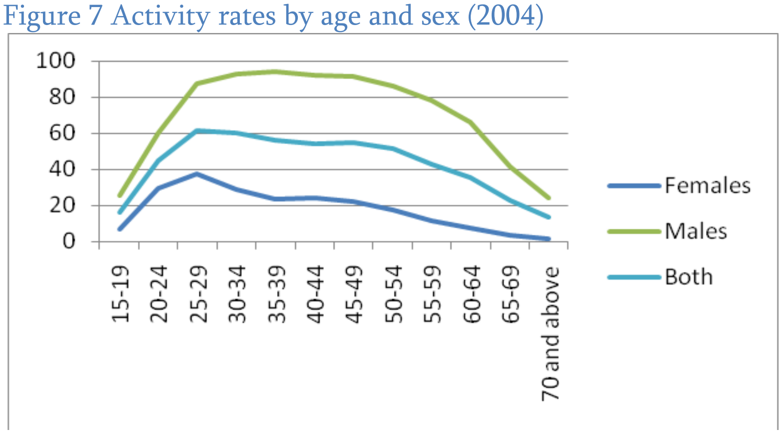
Figure 6 Percentage distribution of women (aged 3 and above) according to attained educational level 1970-2004



Source: CAS.1972. *L'enquête par sondage pour la population active au Liban Novembre 1970.* p.84; CAS. 2006. *The national survey of household living conditions 2004,* p.152.

The major determinants of female labour force participation seem to be rooted in gender definitions, which become most significant during the peak age of marriage and fertility. As previously noted, most women are getting married in the 25-29 age category, a juncture that is accompanied by a sharp drop in female labour force participation from 37.3% to 23.5% between ages of 30 and 49 (Figure 7).

Figure 7 Activity rates by age and sex (2004)

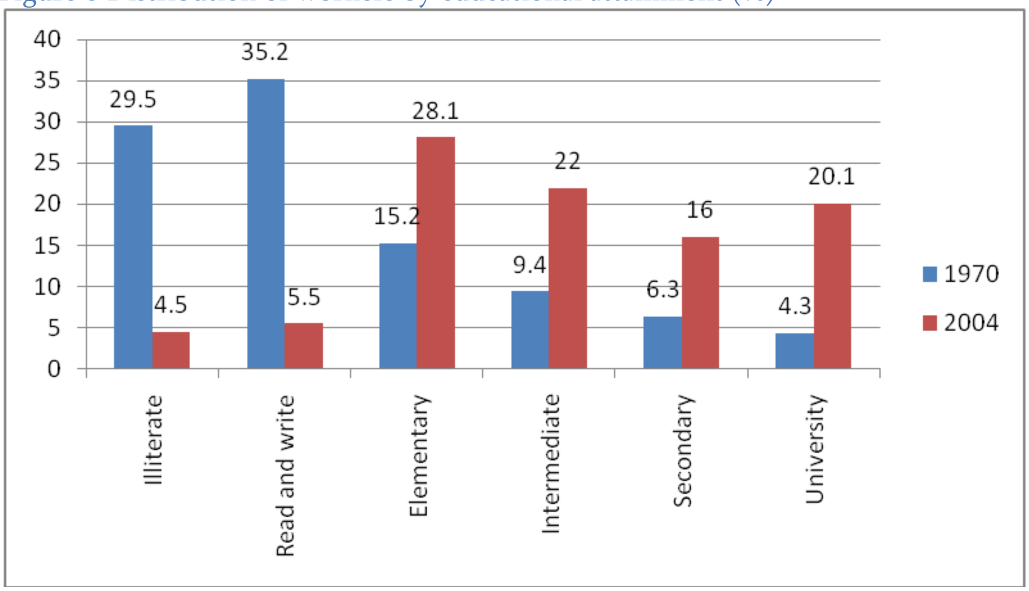


Source: CAS. 2006. *The national survey of household living conditions 2004*, p.53.

3. Profile of workers in Lebanon

The workers (aged 15 and above) in Lebanon are estimated at around 1.1million, the majority of which are men (76%). The share of women in the labour force grew only from 16% in 1970 to 24%in 2004. Indeed, most women of working age (15 and above) are occupied with housework (60%)[13]. This share peaks between the ages of 20 and 29 reaching 30% of workers.
Lebanon's workforce is much more educated than it was thirty years ago with 20% of workers holding a university degree compared to only 4.3% in 1970. In contrast, 29.5% of workers were illiterate in 1970 compared with only 4.5% in 2004 (Figure 8).

Figure 8 Distribution of workers by educational attainment (%)



Source: CAS.1972.*L'enquête par sondage pour la population active au Liban Novembre 1970 ;* CAS.2006.*The national Survey of Household Living Conditions 2004*

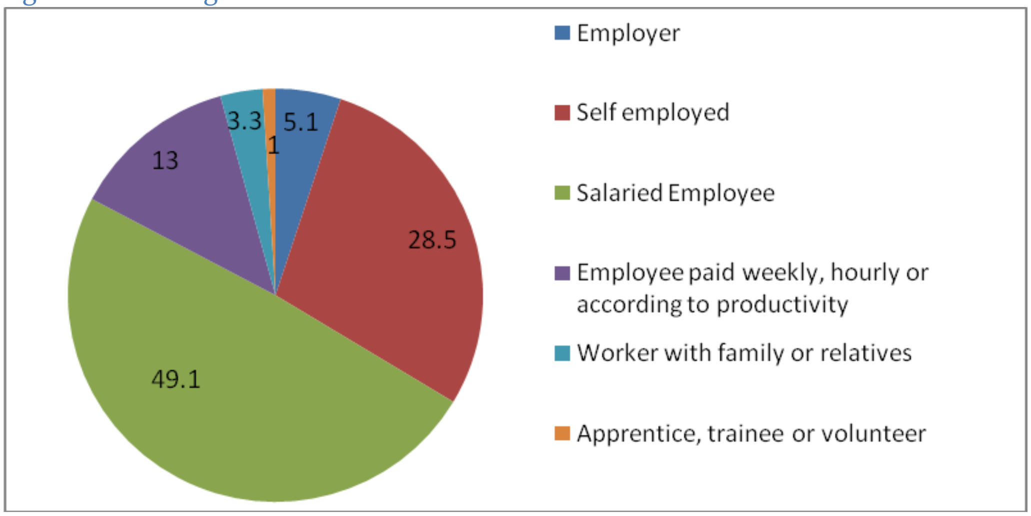
Moreover, female workers are significantly more educated than male workers. Around 34% of women hold university degrees compared to only 16% of men, while 33% of men have only an elementary education versus only 11.4% of women (Annex 1).

Work status and sectors of employment

Around half of Lebanese workers are salaried employees (49.1%) followed by the self-employed category (28.5%). Most of salaried workers work in services (60%) whereas the largest share of employers (32%) and self employed (33%) work in the trade sector (Annex 1). The vast majority of working women in Lebanon are salaried employees (75.8%)[14]. Indeed, women represent 36% of total salaried employees.

[13] CAS.2006.*The national Survey of Household Living Conditions 2004*, p.182, Table 50 b.
[14] CAS. 2006. *The national Survey of Household Living Conditions 2004*, p.188.

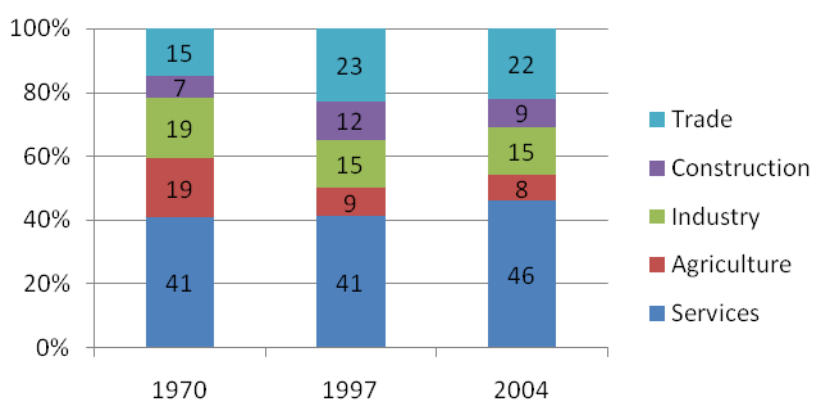
Figure 9 Working status 2004



Source: CAS.2006. *The national Survey of Household Living Conditions 2004*.

Half of the Lebanese workers (50.7%) work in services (including transportation and financial services) followed by trade with more than 20% of total workers. The major dynamics of employment in Lebanon in the recent years is characterized by a significant loss of jobs in agriculture and industry and a simultaneous increase of the employment share in trade and services. Over the past 30 years, the shares of the trade and services sector grew by 5 and 7 percentage points respectively, at the expense of agriculture and industry which decreased by 11 and 4 percentage points respectively (Figure 10).

Figure 10 Employment by sector of activity 1970, 1997 and 2004



Source: CAS, 1970, 1997 and 2004

Most women work in services (64%), followed by trade (16%) and industry (10%). Male employment is less concentrated and distributed across a number of sectors including services (34%), trade (25%), industry (15%) (Annex 1).

Skilled workers constitute the highest share of workers (19.2%) including artisans, construction workers, printing workers etc. followed by unskilled workers (15.5%) and the service sector workers (10.5%). The largest share of working women (22.5%) fall under the category of unskilled workers such as house or company cleaners followed by specialists (19%) such as university teachers, doctors or engineers and 19% have intermediate professions such as school teachers (Table 3).The number of women in the top category of general and corporate managers is low with only 5% of working women as opposed to 12% of working men.

Table 3 Distribution of employed according to occupation and gender (2004)

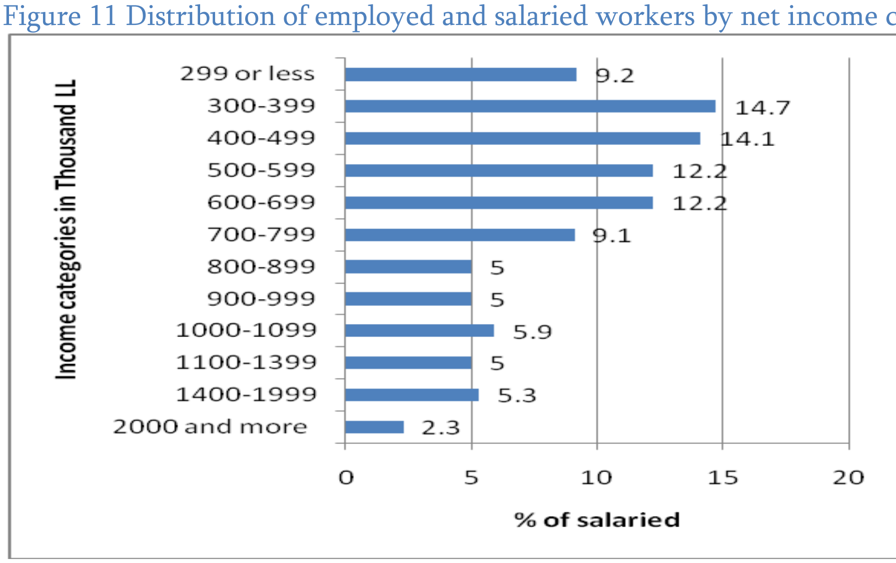
Occupation	Female	Male	Both
General and corporate managers	5.1	12.4	10.7
Professionals	19	6.7	9.6
Intermediate professions	14.6	5.2	7.4
Office employees	15.5	6.9	8.9
Services workers and salespersons	15.3	9.1	10.5
Agricultural and fishery workers	1.4	5.6	4.7
Skilled workers	5.4	23.4	19.2
Drivers	0.9	11.6	9.1
Unskilled workers	22.5	13.4	15.5
Armed Forces	0.4	5.7	4.4
Total	100	100	100

Source: CAS.2006. *The national Survey of Household Living Conditions 2004*

Income and benefits

In terms of income, half the salaried employees in Lebanon have an income of less than L.L. 600 thousand. At the other end of the scale, 2.3% of salaried workers have a net monthly income of L.L. 2 million or more (Figure 11).

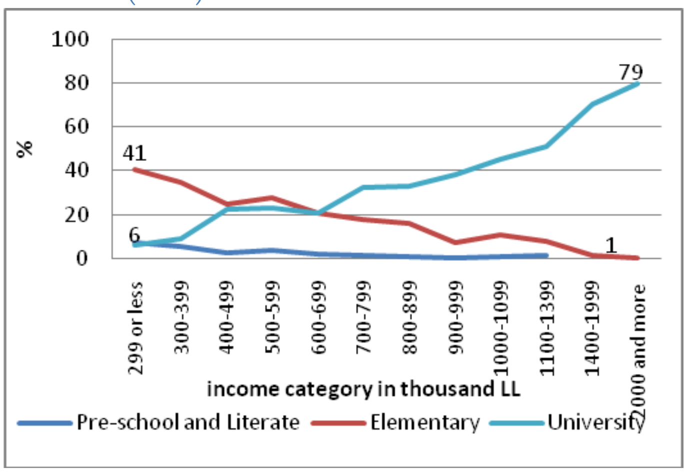
Figure 11 Distribution of employed and salaried workers by net income category (2007)



Source: CAS.2008. *The national Survey of Household Living Conditions 2007,* p.90

Education seems to be an important determinant of income: in 2007 around 80% of workers with university degrees earned L.L. 2 million or more while more than 40% of workers with only primary education earned less than L.L. 300 thousands (Figure 12).

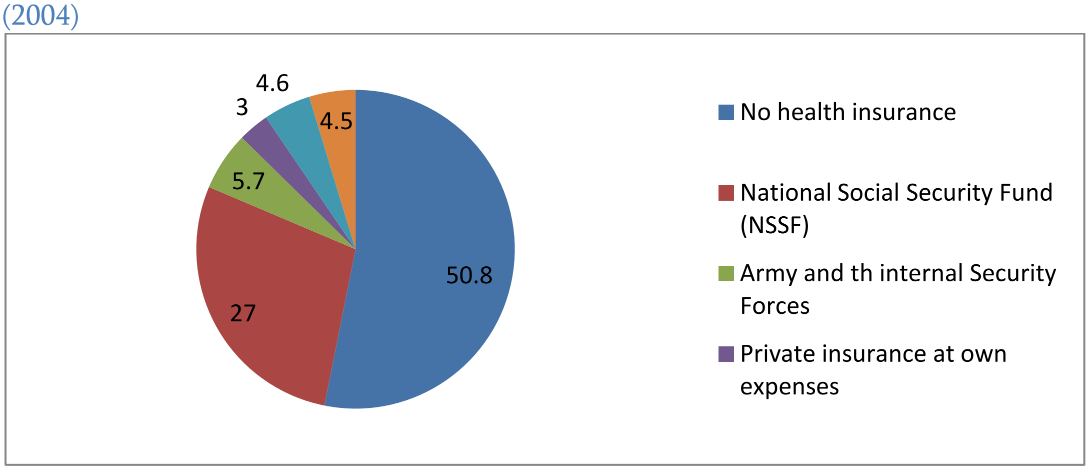
Figure 12 Distribution of employed and salaried workers by net income category and level of education (2007)



Source: CAS. 2008. *The national Survey of Household Living Conditions 2007.*

Only half of workers in Lebanon benefit of health coverage through the NSSF, the Army, public servants cooperative, or private insurance companies. The other half(around five hundred thousand workers) and their dependents are left without any kind of social coverage except for hospitalization and the most basic ambulatory services through the Lebanese Ministry of Public Health.

Figure 13 Distribution of actual labour force whether beneficiary or not per type of insurance (2004)



Source: CAS. 2006. *The national Survey of Household Living Conditions 2004,* p.201

4. Profile of the unemployed

There are around 94 thousand unemployed in Lebanon out of a labour force of 1.2 million individuals (age 15 and above). The majority of the unemployed (70%) are men and 30% are women, reflecting the same trend visible in the labour force in general. The unemployment rate shows an increase from 6% in 1970 to 8.5% in 1997 and 7.9% in 2004. There is no unemployment insurance scheme in Lebanon.

The unemployed of Lebanon are young. More than 60% of them are younger than 29 (Table 4) while 46% of total unemployed in Greece are below age 29, 36% in Denmark and 20% in France[15]. A significant percentage of the unemployed (21%) are university graduates (Annex 1) and this is especially the case for unemployed women 45% of whom have graduated from university compared to 23% of unemployed men.

Table 4 Distribution of unemployment (15 and above) by age group (2004)

Age	% of unemployment
15-19	17.6
20-24	30.8
25-29	16.9
30-34	9.9
35-39	6.4
40-44	6.1
45-49	3.5
50-54	2.9
55-59	1.5
60-64	1.9
65-69	1.6
70 and above	0.9
Total	100

Source: CAS 2006, Living conditions 2006, Table 70, p.207

According to the CAS survey of 2004, the largest share of unemployed in 2004 comprises the skilled workers (24%) followed by the service sector workers (18%) and unskilled workers (15%). Moreover, most of unemployed undertake their job search through their acquaintances (72%).For 23% of the unemployed, the time spent in job search time ranges between6 month and1 year.

The following section of the study report comprises the findings of the quantification model of labour supply and demand in Lebanon and portrays their respective characteristics.

[15] ILO, LABORSTA, available online: http://laborsta.ilo.org, [Accesses February 18, 2011].
While this comparison is useful for illustrative purposes, it is to be noted that unemployment rates in Greece, Denmark and France are calculated based on unemployment registration data while unemployment rates for Lebanon are based on a CAS Household Survey, rendering them not entirely comparable.

Section Two - Labour Force Dynamics: Characteristics of Supply and Demand

The key objective of the quantification model of the labour supply and demand is to assess the status of LMI in each of the categories that make up the demand and supply in the Lebanese labour market. Thus, at every attempt to quantify one of the components of the labour market (e.g. supply from universities), the report highlights the gaps in labour market information and presents the assumptions made necessary by the lack of data. In total, a set of 15 different assumptions were used.

In other words, the quantification aims at examining information pertaining to labour supply and demand and the additional data required to enhance the quality of the current state of labour market information necessary for the development of an LMIS. This model covers only basic variables on the national level, which is an initial step towards the development of a comprehensive LMIS that further disaggregates main indicators by variables such as regions, gender, age groups and economic sectors thereby resulting in a more exhaustive and specific image of the status of the labour market.

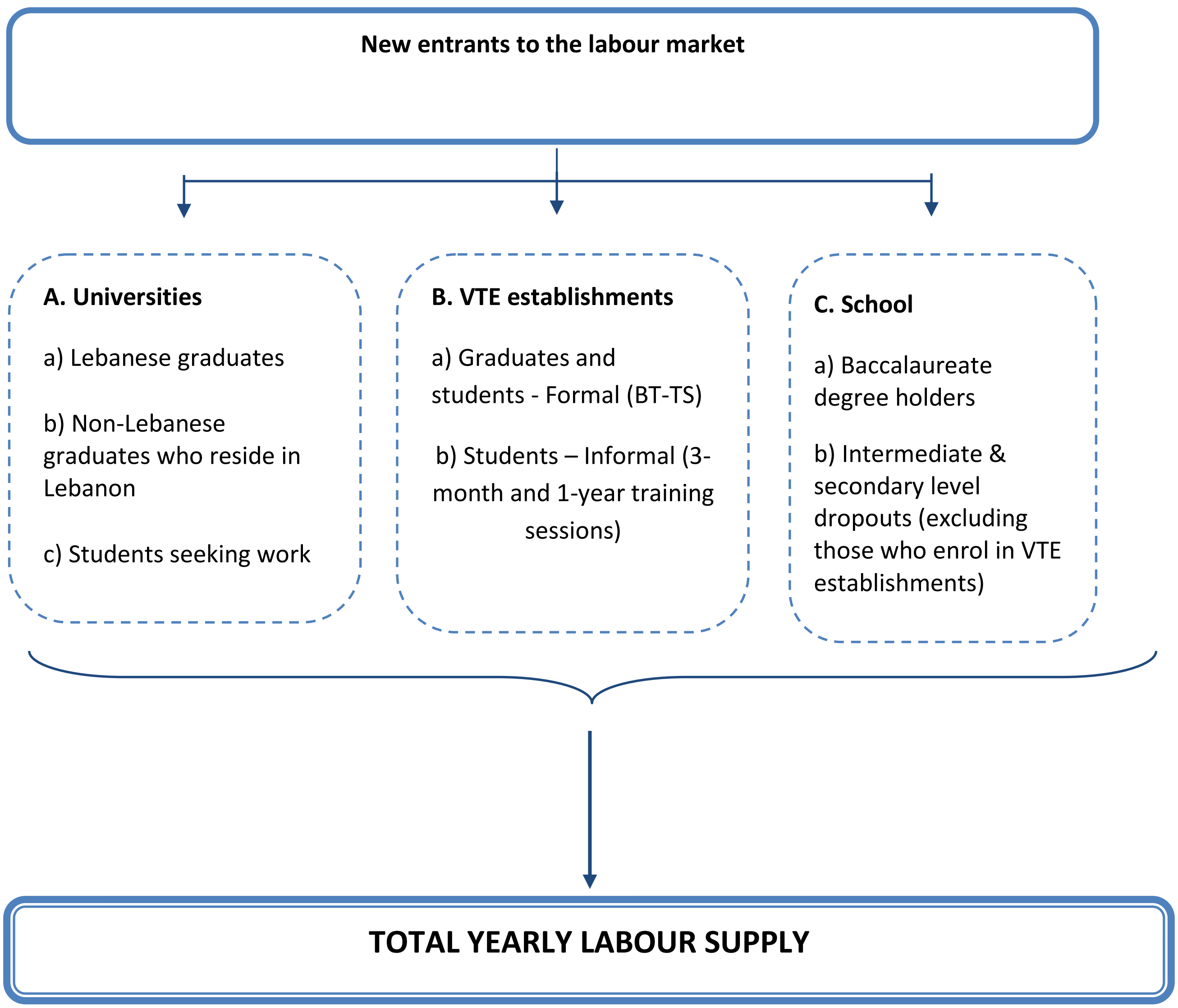
Since the main objective of the labour market dynamics model is to highlight gaps in labour market information, this section presents only a summary of the quantification model. For the full version of the model please refer to Annex 2[16]. Thus, the first part of the section comprises the estimation of yearly labour supply based on the number of labour market entrants from universities, VTE establishments and schools followed by the characteristics of each of those components. The second part consists of the estimation of labour demand based on the needs of new establishments, existing establishments and the identification of the new self-employed, followed by the major available characteristics of labour demand. The third and last part examines the resulting yearly gap between the estimated labour supply and demand.

[16] The numbers in Annex 2 (the full version of the model) are extracted from an Excel sheet (provided to the client) and therefore the presence of decimals inevitably produces discrepancies if one were to try adding the rounded figures from the word version of the model.

1. Labour Supply

Labour supply consists of new entrants to the labour market which comprises students and graduates from universities, vocational and technical (VTE) establishments, and schools (Figure 14).

Figure 14 New entrants to the labour market



UNIVERSITY

A. Labour supply from Universities
Estimation and status of information

Labour supply from universities comprises Lebanese graduates, Non Lebanese graduates residing in Lebanon and students seeking work. The estimation of these three categories sheds light on a number of information gaps, which were substituted by proxy variables and/or assumptions in order to reach reasonable estimates. The following table presents the quantification of the three categories of labour supply from universities, the missing information necessary for the quantification, the proxy variables/ assumptions used for the estimation, and their values. Please refer to Annex 2 for the complete version of the quantification model.

Table 5 Estimation and status of information of labour supply from universities

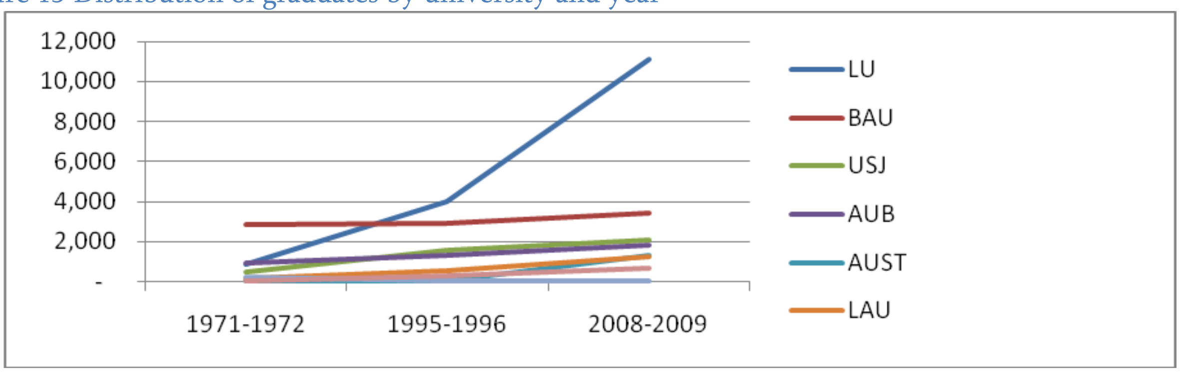
Variable	Number	Information Gaps	Proxy variables / Assumptions	Values
Lebanese graduates	16,900	Distribution of university graduates per nationality	Share of non-Lebanese university graduates	13%
		Labour force participation rate of Lebanese graduates	Share of BA/BS graduate who pursue their studies	24%
			Share of university graduates who seek work	87%
Non-Lebanese graduates residing in Lebanon	1000	Distribution of university graduates per nationality	Share of non-Lebanese university graduates	13%
		Labour force participation rate of non-Lebanese graduates	Share of non-Lebanese university graduates who seek work in Lebanon	25%
Students seeking work	1,700	Labour force participation rate of enrolled students	Share of university students who seek work	17%
Total supply from universities	**19,600**			

Characteristics of labour supply from universities

The characteristics of new entrants to the labour market is a necessary type of LMI as it sheds lights on the status, quality and needs of the current labour supply of the market. In addition to the estimation of the size of the new entrants to the labour supply from university graduates and enrolees, this section of the study aims at describing the characteristics of this category in terms of type of establishments, gender distribution, fields of study, etc.

Graduates from universities in Lebanon constitute the one of the main source of local labour supply. In the past few years, universities in Lebanon have significantly increased to 38 universities in 2008[17] knowing that only 25 universities existed in 1995[18] and 14 in 1972[19]. The number of graduates stood at 29,747 in 2008-2009 of which 78% have graduated from six universities which are the Lebanese University (LU), Beirut Arab University (BAU), Université Saint Joseph (USJ), American University of Beirut (AUB), American University of Science and Technology (AUST), and Lebanese American University (LAU)[20]. During the past years, the number of graduates from the Lebanese University has been significantly increasing. The Lebanese University holds alone 38% of total graduates in 2008-2009.

Figure 15 Distribution of graduates by university and year



Source: Center for Educational Research and Development, *Studies and statistics*, [Available online: www.crdp.org]

Among all universities, the Lebanese University holds the highest share of total university enrolees (44%) in 2007-2008 while it stood at 28% in 1972-1973. Moreover the graduates of the Lebanese University constitute the largest share of graduates in Lebanon with around 38% of total graduates in 2007-2008 as opposed to 15% in 1971-1972. However, the increasing number of enrolees and graduates from the Lebanese University is accompanied by one of the lowest share of graduates

[17] Center for Educational Research and Development, *Studies and statistics*, [Available online: www.crdp.org]

[18] Center for Educational Research and Development, *Comparative statistics of the development of education in 20 years* (in Arabic), Beirut.

[19] Center for Educational Research and Development, *Education Statistics year 1972-1973*, (in French - *Statistiques Pédagogiques Année 1972-197*3), Beirut.

[20] Center for Educational Research and Development, *Studies and statistics*, [Available online: www.crdp.org]

from enrolees (15%) in 2007-2008 as opposed to BAU (19%), USJ (22%) and AUB (26%). The reasons behind the low share of graduates from enrolees in the Lebanese University might be the high registration in theoretical fields of study which are usually characterized by a high drop out rate. In addition, a considerable number of first year students, enrol in Lebanese University for the sole purpose of benefiting from NSSF coverage and will later on drop out. In this context, one must note that LU might hold the highest share of individuals who want to study and work. This is due on the one hand to the low attendance policy and to the longer period of specialization in comparison to other universities who now apply the LMD system[21].

Women in Lebanon hold the highest share among graduates constituting 56% of total graduates in 2007-2008. However, demand for male labour is higher than of female and male participation rate reaches 68% as opposed to female participation rate, which stands at 20% in 2004[22].

The highest share of students are found in business and services related fields with 23% of students enrolled in 2006-2007 as opposed to social sciences and law (18%) and humanities (20%). On the other hand, engineering and medical and health sciences stand each at 7% of total enrolees.

Table 6 Distribution of university enrollees by field of study (2006-2007)

	Number	**Percentage**
Engineering	11,291	7%
Medical and health sciences	11,712	7%
Sciences	19,340	12%
Computer sciences	7,477	5%
Humanities	31,957	20%
Social Sciences and Law	29,053	18%
Business and services	36,783	23%
Communication and Fine Arts	7,353	5%
Education	4,066	3%
Agriculture	362	0.23%
Other	970	1%
Total	160,364	100%

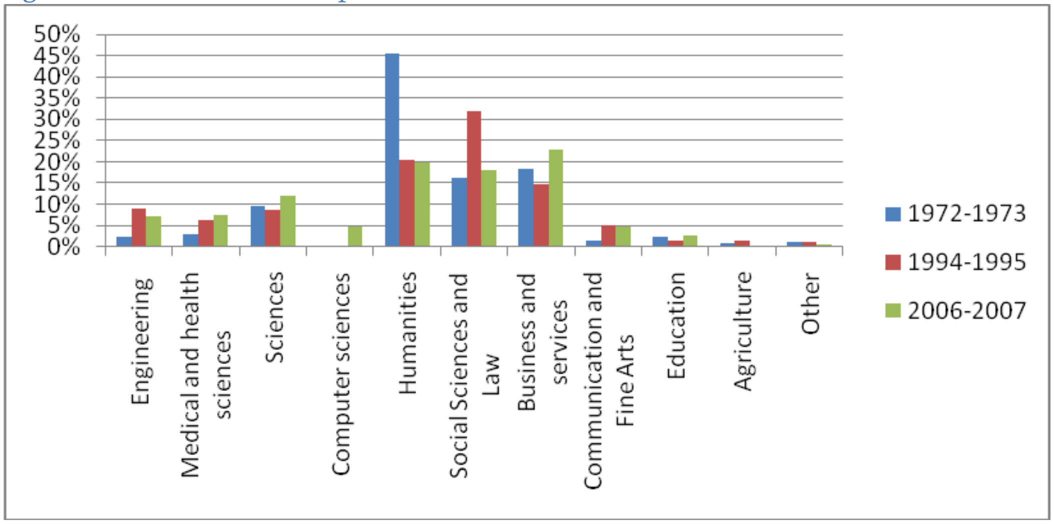
Source: CRDP, 2008, Studies and statistics, www.crdp.org

Throughout the years, certain fields of study have gained or lost importance in terms of number of students enrolled. The share of students enrolled in Humanities decreased from 46% in 1972-1973 to 20% in 2006-2007 and Business and Services from 18% to 23% of the same years.

[21] License, Maitrise, Doctorat.

[22] CAS, 2004, *Living conditions of Households*.

Figure 16 Share of students per field of studies in 1972-1973, 1994-1995 and 2006-2007

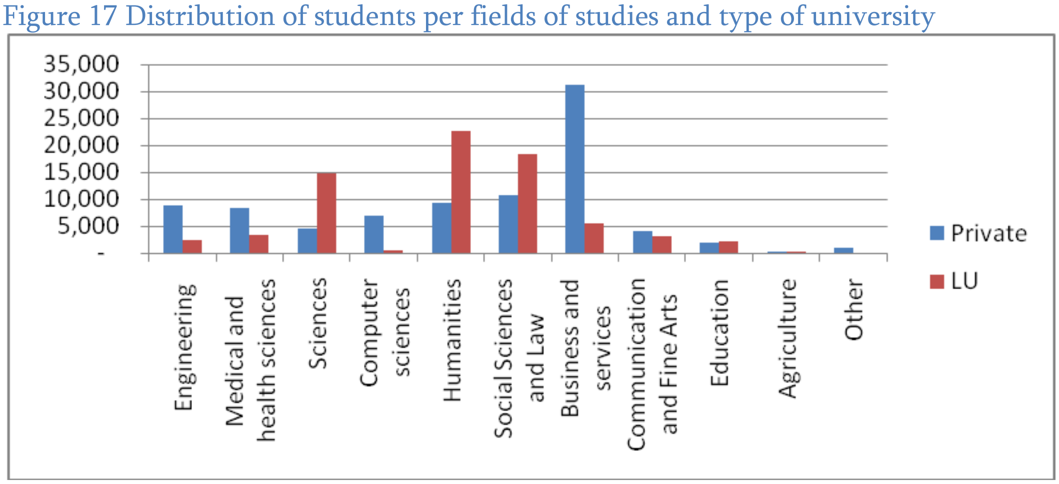


Source :

المركز التربوي للبحوث والإنماء، *المقارنات الإحصائية لمسار التطور التربوي خلال ٢٠ سنة ١٩٧٣-١٩٧٤/١٩٩٤-١٩٩٥*
(CERD, *The Development of the Educational Sector over a period of 20 years: Statistics and trends 1972-1973/1994-1995*). CERD, Center for Educational Research and Development, *Studies and statistics*, 2006-2007 [Available online: www.crdp.org]

The Lebanese University registers a higher share of students in comparison with other private universities in Sciences, Humanities and Social sciences and Law. Private universities have higher share of students in Business and Services (85%), Engineering (79%), and Medical and Health sciences (71%).

Figure 17 Distribution of students per fields of studies and type of university



Source: CERD, Center for Educational Research and Development, *Studies and statistics*, 2006-2007 [Available online: www.crdp.org]

B. Labour supply from VTE establishments
Estimation and status of information

The second category of new entrants to the labour market comprises the students and graduates of VTE establishments. VTE consists of technical education and vocational training. Vocational training is based on manual and practical skills apart from an extensive theoretical knowledge. The total size of labour supply from VTE establishments is estimated at 24,000 students and graduates. Please refer to Annex 2 for the complete quantification model.

Table 7 Estimation and status of information of labour supply from VTE establishments

VTE

Variable	Number	Information Gaps	Proxy variables	Values
Formal VTE graduates	9,500	Labour force participation rate of formal VTE graduates by degree	Share of formal VTE graduates who seek work	68%
Formal VTE students seeking work	2,300	Labour force participation rate of enrolled students	Share of formal VTE students seeking work	20%
			Share of informal VTE students seeking work (3 months sessions)	36%
Informal VTE students	12,200	Labour force participation rate of enrolled students	Share of informal VTE students seeking work (1 year sessions)	82%
Total supply from VTE establishments	24,000			

Characteristics of the labour supply from VTE establishments

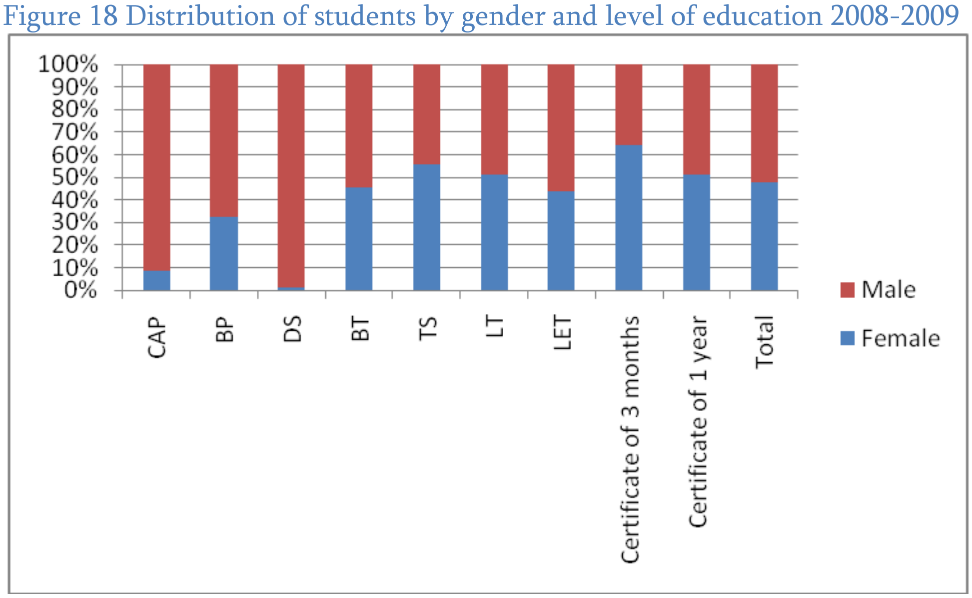
This section of the study will portray the size and the characteristics of labour supply from formal VTE public and private schools and according to the different levels of degrees. It is to be noted that there is nevertheless a considerable number of informal VTE graduates (12,200) in the labour market which even exceeds that of formal VTE students and graduates (11,800). This highlights the shortage of labour entrants holding formal education degrees and qualified skills. The accumulation over the years of labour market entrants without formal education and the necessary qualified skills will affect the quality of labour supply in the future.

In the past ten years, VTE has considerably increased in Lebanon. The number of students enrolled in VTE establishments (official degrees) increased from 40,039 enrolees in 1996-1997 to 87,961 in 2008-2009 which represent an increase of 107%. The largest share of enrolees is registered at the Baccalaureate Technique level with 49% of total students enrolled in VTE establishments.

The increase of VTE students is also accompanied by the increase of VTE establishments from 130 establishments in 1972-1973 to around 447 in 2008-2009. VTE establishments in Lebanon are for the most part private institutions with around 351 private schools as opposed 105 public schools in 2009-2010. In other words, around 73,000 students or 63% of total VTE students in 2008-2009 are enrolled in private institutions as opposed to 37% in public institutions.

In terms of gender distribution, there is almost an equal number of male and female students enrolled in 2008-2009. The share of females increased over the years from 40% in 1995-2000 to 48% in 2008-2009. It must also be noted that number of male students exceeds that of females in CAP, BP and DS degrees (Figure 18)

Figure 18 Distribution of students by gender and level of education 2008-2009



Source: CERD, Center for Educational Research and Development, *Studies and statistics*, 2008-2009 [Available online: www.crdp.org]

Fields of study in VTE

The specialties across the different VTE degrees comprise degrees in Electrical studies, Mechanics, Health, Computer, Business, Engineering, Education and Industry. In general, students are concentrated in the fields of Business and Services, Health and Computer and Electronics. Specialties such as Education and Industry have registered a smaller number of graduates. The largest share of CAP graduates has degrees in electrical specialities (58%). Most of SP graduates are registered in Mechanics (67%). BT graduates are concentrated in the Business and Services specialties (59%). The largest share of TS graduates is almost equally distributed between Business and Services (31%), Health (28%) and Computer and Electronics (19%). Similarly, LT graduates are concentrated in Health (42%) and Computer and Electronics (20%).

Table 8 Distribution of CAP graduates by field of study (2006-2007)

Field of study	Number	Percentage
Electrical	240	58%
Mechanics		
Health		
Computer and Electronics		
Business and Services	52	13%
Engineering		
Education		
Industry	121	29%
Total	**413**	**100%**

Source: CERD, Center for Educational Research and Development, *Studies and statistics*, 2006-2007 [Available online: www.crdp.org]

Table 9 Distribution of SP graduates by field of study (2006-2007)

Field of study	Number	Percentage
Electrical	15	8%
Mechanics	132	67%
Health		
Computer and Electronics		
Business and Services	42	21%
Engineering		
Education		
Industry	9	5%
Total	**198**	**100%**

Source: CERD, Center for Educational Research and Development, Studies and statistics, 2006-2007 [Available online: www.crdp.org]

Table 10 Distribution of BT graduates by field of study (2006-2007)

Field of study	Number	Percentage
Electrical	286	3%
Mechanics	301	4%
Health	914	11%
Computer and Electronics	297	4%
Business and Services	4 969	59%
Engineering	391	5%
Education	1 180	14%
Industry	44	11%
Total	**8 382**	**100%**

Source: CERD, Center for Educational Research and Development, *Studies and statistics*, 2006-2007 [Available online: www.crdp.org]

Table 11 Distribution of TS graduates by field of study (2006-2007)

Field of study	Number	Percentage
Electrical	53	1%
Mechanics	126	3%
Health	1 086	28%
Computer and Electronics	722	19%
Business and Services	1 191	31%
Engineering	176	5%
Education	451	12%
Industry	40	1%
Total	**3 845**	**100%**

Source: CERD, Center for Educational Research and Development, *Studies and statistics*, 2006-2007 [Available online: www.crdp.org]

Table 12 Distribution of LT graduates by field of study (2006-2007)

Field of study	Number	Percentage
Electrical		
Mechanics	39	3%
Health	542	42%
Computer and Electronics	255	20%
Business and Services	145	11%
Engineering	112	9%
Education	169	13%
Industry	18	1%
Total	**1 280**	**100%**

Source: CERD, Center for Educational Research and Development, Studies and statistics, 2006-2007 [Available online: www.crdp.org]

Table 13 Distribution of LET graduates by field of study (2006-2007)

Field of study	**Number**	**Percentage**
Electrical	23	11%
Mechanics	13	6%
Health	46	23%
Computer and Electronics	61	30%
Business and Services	51	25%
Engineering	8	4%
Total	**202**	**100%**

Source: CERD, Center for Educational Research and Development, *Studies and statistics*, 2006-2007 [Available online: www.crdp.org]

C. Labour supply from schools: Dropouts from intermediate and secondary education and baccalaureate degree holders Estimation and status of information

In addition to graduates and students of universities and VTE establishments, school dropouts from intermediate and secondary education as well as baccalaureate degree holders are considered to be potential new entrants to the labour market. The total number of new entrants to the labour market from schools as baccalaureate degree holders who do not pursue their studies in addition to intermediary and secondary education drop outs is estimated at 17,600.

Table 14 Estimation and status of information of labour supply from schools

	Variable	Number	Information Gaps	Proxy variables	Values
Schools	Intermediate and secondary education drop outs	9,400	Share of intermediate and secondary drop outs who seek work	Average dropout rate of intermediate and secondary students	5.2% [23]
	Baccalaureate degree holders	8,200	Share of Baccalaureate degree holders who seek work	Share of Baccalaureate degree holders who enter the labour market	25% [24]
	Total supply from schools	17,600			

[23] Based on the study Compulsory Education in Lebanon: The need for Public Education" (CRI&CERD), the average drop-out rate of students enrolled in Intermediate 4 and Secondary 1,2 and 3 which do not enroll in VTE programs but rather enter the labour market is calculated at 5.2%. More details on the quantification model can be found in Annex 1.

[24] CRI estimates of total baccalaureate degree holders who do not pursue university and undergraduate studies. More details on the quantification model can be found in Annex 1.

D. Total Yearly Labour Supply

The total yearly supply is composed from university students and graduates, VTE students and graduates, dropouts from intermediate and secondary level and baccalaureate degree holders who do not pursue their studies. Based on the aforementioned estimations and assumptions, the total supply during an average pattern of 3 years (2007-2009) is estimated at 61,200 individuals seeking work. This estimation gives an idea about the size of the labour supply and its characteristics and sheds light on the necessary but unavailable labour market information.

Total new entrants to the labour market from universities and VTE establishments

New entrants to the labour market	**2008-2009**
University students and graduates	19,600
VTE students and graduates	24,000
Baccalaureate degree holders and dropouts from intermediate and secondary education who enter the labour market	17,600
Total	**61,200**

2. Labour Demand

Estimation and status of information

The size of the demand is quantified based on three categories:

A- Demand from newly registered establishments

B- New self-employed workers

C- Demand from existing firms due to expansion

Total demand from newly registered establishments, new self-employed workers and from expanding existing establishments is estimated at 25,900.

Table 15 Estimation and status of information of labour demand

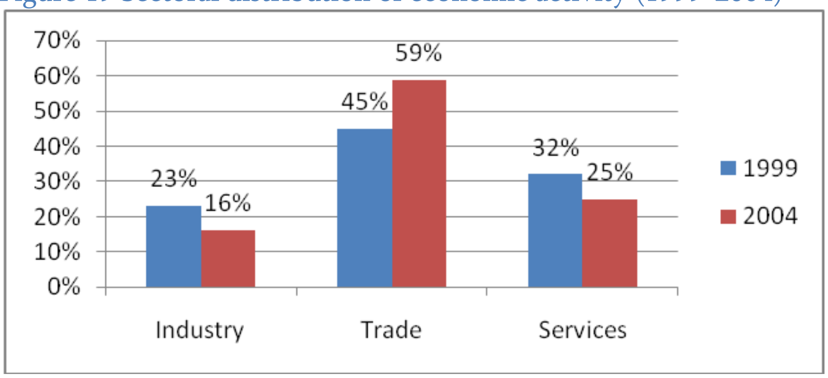
Variable	Number	Information Gaps	Proxy variables / Assumptions	Values
Demand from new establishments	11,600	Distribution of new establishments by size and sector	Yearly average number of new establishments	4800
			Average number of workers per establishment	2.4
New self-employed	11,300	Yearly increment of self-employed individuals	Share of self-employed out of total workers	28%
			Share of informal (not registered) one person establishments	67%
Demand from existing enterprises	3,000	Expected new hiring/firing by economic sector	Average yearly gross demand for employees (2001-2007)	10,100
Total Yearly Demand	25,900			

Characteristics of labour demand [25]

The total number of establishments based on the latest Census of Establishments conducted by CAS (2004) stands at 176,279. These establishments are mostly of the micro and small type with 91% of them employing no more than 4 workers. MSEs employ an average of 2.5 employees per enterprise. The major contributor to employment is the 2-4 employee category (46.8% of enterprises and 46.8% of employment)[26].

The sectoral distribution of economic activity shows the high share of trade (59%) at the expense of services (25%) and industry (16%)[27]. This trend remains true for micro and small enterprises where most generated employment is in trade followed by industry and hotels and restaurants[28].

Figure 19 Sectoral distribution of economic activity (1999-2004)



Source: Central Administration for Statistics, Census of Establishments of 2004.

Around 97% of the workers are permanent, which does not however imply that all these workers are formal. There is no data so far on the degree of formalization of enterprises and workers in general; the only indications are given by the MSE study[29] which classifies formalization of enterprises according to three criteria: commercial registration, registration with NSSF, and registration with tax authorities. The study shows that about 50% of the MSEs are commercially registered, 20% are registered with the NSSF and 44% are registered with the taxation department. The likelihood to register in all three systems increases with the size of the enterprise. Female-run MSEs have a higher probability of not being required to register because of the smaller size of female-run enterprises; however, female-run enterprises are more likely to register with the NSSF. Among sectors, NSSF registration increases in industry, hotels, and restaurants.

Relatively recent information on work conditions is also only available for micro and small enterprises. Most of these enterprises work 6 days per week with an average of 6.3 days per

[25] MSEs are enterprises that employ less than 50 workers

[26] Hamdan, K., 2004. *Micro and Small Enterprises in Lebanon*. Research Report Series No 0417. Economic Research Forum.

[27] CAS, Census of Establishments of 2004.

[28] *Ibid.*

[29] *Ibid.*

week[30], increasing to 6.39 days per week in 2006[31].Services have longer working hours with 6.7 days per week in hotels and restaurants[32].

Around 63% of MSE workplaces are rented and 32% are owned. Around 65% have access to water, 85% to electricity, 70% to sewerage and roads, and less than 50% have access to telecommunication or transportation for goods and workers[33].

In 2004, 94% of MSEs identified their customers as households, compared to 98% in 2006. This points to the lack of business to business services, a feature of underdeveloped economies, and an obstacle to the translation of growth into job creation. Moreover, 96% of MSEs reported targeting the local market, compared to 99% in 2006.

As for the constraints to growth identified by MSEs, the most severe were competition and instability followed by taxes, procedures and administration, and access to capital[34].

3. Gap between labour supply and demand

The total gross yearly gap between the estimated labour supply and labour demand stands at 35,800 individuals seeking work. This total yearly gap **is** examined through two assumptions:

- Total yearly migration: According to the USJ migration study[35], the average yearly rate of migration between 1992 and 2007 stands at 0.77% of total population, knowing that the share of workers out of total migrants is estimated at 70%. Applying these rates on total population aged 19 and above (68% of total population), the number of active migrants is estimated at **13,500** migrants.

- Unemployment: The stock of the unemployed, who are not first time job seekers, is added to the yearly gap between labour supply and demand. The grand total gap refers to the yearly labour gap in addition to the stock of unemployed. Due to data discrepancies, three different estimation of the unemployed stock were adopted. The total unemployment is thus estimated at 131,800 based on the low scenario, at 166,350 in the medium scenario and at 200,900 in the high scenario[36] (Table 16).

It is to be noted that the estimation of the gap between labour supply and demand is based on the assumption that one fraction of the labour supply meets the actual demand on the market while

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[30] Hamdan, K. 2004. *Op. Cit.*

[31] ILO. 2007. *Conflict of 2006 and Small Enterprises in Lebanon: Impact and Roadmap to Recovery*. Beirut.

[32] *Ibid.*

[33] *Ibid.*

[34] Consultation and Research Institute. 2007. *SME Business and Market Review (wave 3)*. MOET, EU.

[35] Kasparian, C. 2009. *L'Emigration des jeunes libanais et leurs projets d'avenir*, USJ. Beirut

[36] CAS, 2007, Living Conditions of Households, Beirut; Refer to Annex 2 of the report

the other part falls into the unemployment stock. The estimation of the gap does not take into account the supply which does not meet the actual demand in terms of skills and qualifications but simply adjust to it for the sake of employment.

Table 16 Estimation of labour supply and demand

Model: Labour Market in Lebanon

Supply		Demand	
University students and graduates	19,624	New establishments	11,563
VTE students and graduates-Formal	11,809	New self-employed	11,342
VTE Graduates-Informal	12,243	Demand from existing enterprises	2,963
Drop out	17,569		
Total Yearly Supply	**61,245**	**Total Yearly Demand**	**25,868**

Total Gross Yearly Gap	**35377**
Total Yearly Migration	-13540
Total Net Yearly Gap	**21837**

	Scenario Low	Scenario Medium	Scenario High
Stock of Unemployed	110,000	144,513	179,026
Additional yearly Gap	21,837	21,837	21,837
Total unemployed	131,837	166,350	200,863
Active Population	1,287,000	1,287,000	1,287,000
Unemployment Rate (%)	10.2%	12.9%	15.6%

The profile generated by the review of existing labour market information gives rise to several major conclusions:

1. Labour supply is characterized by an increased share of science specialties among university students accompanied by a wider scope of the labour market from the job seeker's perspective. Indeed, an unusual feature of the Lebanese labour market is that supply is not only directed toward the local market but rather toward the region and other traditional international poles of migration, as indicated by the rather high propensity toward migration.

2. Quality of education is an issue that needs addressing especially in the case of basic and technical education. Indeed VTE establishments suffer from old curricula, poor hands-on training as a result of lack of equipment, and an absence of accreditation standards. This poor quality of training has serious repercussions on the labour market, especially in light of the high share of VTE graduates (formal and informal) in total labour supply (around 50%).

3. Labour demand is mainly characterized by a large share of micro and small enterprises with little growth potential, simple and repetitive business processes, and minimal vertical integration. Indeed, most establishments report that their clientele consists mainly of final consumers thus revealing the small share of business to business services.

4. The gap between supply and demand is both quantitative (section 3) and structural, resulting mainly from a mismatch between an increasingly educated labour supply and an underdeveloped economic structure consisting mainly of micro and small enterprises (91% of enterprises employ less than 4 workers) characterized by basically repetitive simple processes and little vertical integration (business-to-business services). This gap means that instead of exporting specialized products and services, Lebanon tends to export specialized manpower thereby generating little return for its economy, except for the sizeable remittances sent by immigrants to their families.

5. The various sources of information on labour demand and supply are fragmented with no mechanisms of coordination for collection and analysis of the information. Labour market related institutions lack human and financial resources , and in addition there is a lack of policies pertaining to the strengthening of relevant public institutions. As a result there is no capacity to formulate labour market and employment policies that could decrease gaps in the labour market. Private entities cater mostly to very specific clientele and topics and tend to be oriented towards the region and not the country.

6. Informal employment remains common on both the establishment and worker levels, resulting in a situation where most workers operate without written contracts and under conditions that very often do not meet the minimum standards, and often without any social coverage (According to CRI estimates, 40% of employees in Lebanon are not registered in NSSF). This does not attract qualified workers and increases the gap between labour supply and demand

7. There is a striking and relatively stable gender gap in labour force participation with only 21% of women who are economically active compared to 67% of men. This gap is rather typical of the countries in the region and is related both to the cultural definition of gender roles and to the absence of a network of support services that facilitate the task of balancing work and family responsibilities.

The above issues may be addressed using a policy package that spans the work of several ministries and most of which were included in the recommendations of the recently published National Social Development Strategy for Lebanon, which includes instituting effective labour market coordination mechanisms including the establishment of a Labour Market Information System that is accessible and available for public use and the empowerment and capacity building of the National Labour Office[37]. Elements of the policy package include:

1. Elaborating a governmental economic vision with sectoral development strategies which simultaneously provide demand and supply incentives for the purpose of developing certain promising subsectors of the economy. Moreover, technology needs to be embedded in all sectors both private and public in order to increase productivity and value-added.
2. Encouraging the formalization of establishments by providing them with simple low-cost registration options and gradually enforcing the protection of all workers through requiring a written contract even for temporary or seasonal work.
3. Instituting effective labor market coordination mechanisms including the establishment of a Labor Market Information System that is accessible and available for public use and the empowerment and capacity building of the National Labor Office.
4. Encouraging female participation in the labor force by establishing mechanisms such as daycare subsidies, flexible work schedules, and pro-family policies.
5. Strengthening the relationship between wages and the cost of living by conducting regular reviews of the minimum wage and the average national wage to ensure that their level is sufficient for the provision of a decent standard of living for workers and their families.
6. Enforcing the tenants of decent work and human rights to all workers and expanding the protection of the labor law to all workers regardless of nationality, gender, type, or place of work.
7. Ensuring a safe work environment by enforcing work safety and hygiene standards.
8. Ensuring continuous improvement of skills by providing opportunities for on-the-job training, standardizing training and certification requirements and linking promotion opportunities to training.

[37] CRI, UNDP, MOSA. 2011. *National Social Development Strategy for Lebanon.* Beirut.

Section Three - Assessment of the availability and quality of LMI

During the process of elaborating a profile of the labour market in Lebanon (Section 1) and trying to quantify labour supply and demand (Section 2), a number of obstacles related to unavailable or unusable data were identified. This section presents a matrix that compiles these obstacles and assesses the quality of the data in terms of four main indicators: frequency, availability, accessibility and consistency. This matrix attempts to further develop the information compiled in Annex E of the ILO report "Plan for the development and Implementation of a Labour Market Information System (LMIS) in Lebanon"[38].The information is grouped under three categories: 1) demographic indicators; 2) Labour force profile and 3) Labour supply and demand. In addition to these categories, macro-economic indicators such as GDP, fiscal performance and poverty lines constitute another category of data that should also be developed as they are necessary for the enhancement of LMI. Finally, the exercise suggests actions to be taken in order to enhance the quality of LMI.

Following are some definitions that are important for deciphering the information presented by the LMI matrix:

- **Information** - LMI used in section one and two of the report
- **Producer** - Name of the institution producing the data
- **Latest year** - The most recent year when this data is available
- **Frequency (F)** - Data is not available on regular annual basis
- **Availability (Av)** - Data is currently not produced
- **Accessibility (Ac)** - Data is produced but not published
- **Consistency (c)** - Different definitions are used by different producers
- **Comment** - Comments on the identified problems in terms of F, Av, Ac, and C
- **Suggested actions** - Actions suggested for the enhancement of LMI quality based on the assessment of data

[38] ILO, 2009, *Plan for the development and Implementation of a Labour Market Information System (LMIS) in Lebanon*, Annex E "Table of LMI Producers, Processors and Users in Lebanon", prepared by Ralph Kellett.

1. Assessment of the availability and quality of LMI

1. Demographic Indicators									
INFORMATION	**CURRENT PRODUCER**	**LATEST YEAR**	**Layers**	**F**	**Av**	**Ac**	**C**	**Comment**	**SUGGESTED ACTIONS**
Population size	CAS	2007	Age, gender, Governorate					F: 1970;1996;2004;2007 - The last census was conducted in 1932 followed by 4 irregularly spaced national surveys the latest of which is based on a sub-sample Av: Population size disagreed by Caza & CF C: inconsistent sampling methodologies	Population census (every 5 to 10 years)
Household size	CAS	2007						F: Irregularly spaced national surveys	Frequent/regular household survey
Fertility rate	WB	2010						C: inconsistent definitions and calculations	Annual National Health Account
Life expectancy	WB	2010						C: inconsistent definitions and calculations	Annual National Health Account
Celibacy rate	CAS	2007						F: Irregularly spaced national surveys	Annual household survey
Average migration rate	USJ	2009						F: Irregularly spaced national surveys C: inconsistent definitions and calculations	Annual household survey

2. Labour force profile									
INFORMATION	**CURRENT PRODUCER**	**LATEST YEAR**	**Layers**	**F**	**Av**	**Ac**	**C**	**Comment**	**SUGGESTED ACTIONS**

Active population	CAS	2007						F: Irregularly spaced national surveys	Annual Labour force surveys
Activity rate	CAS	2007	Age; gender					F: Irregularly spaced national surveys Ac: Raw data is needed to extract information of interest such as activity rate for women of various educational levels C: Inconsistent definitions	Annual household survey Standardized and consistent definitions of LMI
Level of education of workers	CAS	2007						F: irregularly spaced national surveys C: Modalities differ between CAS and other national surveys (Kasparian, 2009)	Annual Labour force surveys Standardized and consistent definitions of LMI
Work status of workers	CAS	2007						F: Irregularly spaced national surveys	Annual Labour force surveys
Sector of activity of workers	CAS	2007						F: Irregularly spaced national surveys C: Modalities differ between CAS and other national surveys(CAS, 1970; Kasparian, 2009)	Annual Labour force surveys
Occupation of workers	CAS	2007	Gender					F: Irregularly spaced national surveys C: Modalities differ between CAS and other national surveys (CAS, 1970; Kasparian, 2009)	Annual Labour force surveys Standardized and consistent definitions of LMI
Income of workers	CAS	2007	Gender, education					F: Irregularly spaced national surveys Av: Data on income of non-salaried workers is not available.	Annual Labour force surveys
Insurance of workers	CAS	2007						F: Irregularly spaced national surveys Av: Data on insurance by work status, age group and gender is not available Ac: data is not published	Annual Labour force surveys
Unemployed	CAS	2007	Age, gender					F: Irregularly spaced national surveys C: Modalities differ between CAS and other national surveys (i.e The World Bank)	Annual Labour force surveys Standardized and consistent definitions of LMI

3. Labour supply and demand									
INFORMATION	CURRENT PRODUCER	LATEST YEAR	Layers	F	Av	Ac	C	Comment	SUGGESTED ACTIONS
University graduates	CERD	2010	Public and private institutions; Universities; Year; Gender					Av: Data on specialty and nationality of graduates is not available Av: Data on the distribution of graduates per level of education (undergraduate and postgraduate) Av: Traceability of graduates during the transition period from study to work (i.e. graduates seeking work; resident foreign graduates)	National cohort every five years to study the behaviour and choices of youth at various stages of the education to work transition
University enrolees	CERD	2010	Universities Gender; Year; Specialty					Av: Data on the distribution of enrolees by year of enrolment Av: Data on students seeking work or working	Participation of universities in production of data National cohort every five years to study the behaviour and choices of youth at various stages of the education to work transition
VTE graduates (Formal)	CERD	2010	Public and private establishments; Level of degree; Year; Specialty					Av: Traceability of graduates during and following the transition period from study to work (i.e. graduates seeking work;)	National cohort every five years to study the behaviour and choices of youth at various stages of the education to work transition
VTE students (Formal)	CERD	2010	Level of degree; Year; Gender					Av: Data on students studying and working	National cohort every five years to study the behaviour and choices of youth at various stages of the education to work transition
VTE students (Informal)	CERD	2010	Year, Specialty					Av: Data on graduates is not availableAv: Students seeking work or working	Participation of establishments in production of dataNational cohort every five years to study the behaviour and choices of youth at various stages of the education to work transition

Intermediate and secondary level drop outs	CRI	1998						Av: Drop out rate is not available Av: Number of drop outs per level of education Av: Traceability of drop outs (enroll in VTE, seek work, etc.)	Participation of schools in production of data National cohort every five years to study the behaviour and choices of youth at various stages of the education to work transition
Baccalaureate degree candidates	CERD	2010	Year, public and private school, Specialty						
Baccalaureate degree graduates	MEHE	2010						Av: Tractability of graduates during and following the transition period from school to higher education or labour market Ac: Data available at the MEHE but not published	Participation of MEHE in production of data National cohort every five years to study the behaviours and choices of youth at various stages of the education to work transition
Newly registered establishments	CAS	2008	Distribution by sector					F: The CAS yearbook has not been published since 2008 Av: Status (operational vs. registered); average size of establishments per sector and region, formality of workers	Census of establishments every five years
Existing establishments	CAS	2004	Number of establishments, sector, ownership or rent, by access to water, electricity, sewage, etc.					F: A census of establishments was carried out in 1996 and another in 2004 Av: Average size per sector and region, yearly increase or decrease of number of workers; demand for various fields of study; formality of workers; work status of workers; C: irregularities appears when comparing both censuses	Census of establishments every five years A proxy-variable can be used: opinion survey in major sectors of activity and covering major stakeholders (propensity to recruit or lay-off)
Self-employed statistics	CAS	2004	Economic sector, gender,					Av: no official statistics is covering both formal and informal sectors, especially in the self-employed status	Survey on formality and informality sectors

2. Concluding Remarks

These identified information gaps make the establishment of an LMIS all the more crucial for the ability to diagnose the situation of the labour market in Lebanon and hence to elaborate policies that address these issues. However, since an LMIS will not create data but will make use of information from existing data sources, these same gaps in information constitute challenges for the creation of an LMIS and therefore need to be addressed before such a system is developed.

1. **The absence of a clear strategy that informs the selection of indicators that should be included in surveys and published.** This is especially a problem in the case of national surveys which ought to be an opportunity for coordinating the needs of multiple users of data. In the absence of such a strategy, critical information can fall through the cracks such as –among others- the distribution of graduates (not only enrollees) according to specialty, an indicator which is crucial for determining the qualitative match between labour market needs and the supply of future workers.

2. **The irregular timing of national surveys thus resulting in interrupted time-series that do not allow the extraction of accurate trends.** For instance the livelihood survey was conducted in 1997, 2004 and 2007, and the census of establishments was conducted in 1997 and 2004. Moreover, the 2007 livelihood survey was conducted on a sub-sample of the 2004 survey in the aftermath of the 2006 war and hence its results are not necessarily generalizable.

3. **The inconsistencies in the data generated by various data producers and even between separate waves by the same data producer.** For instance, while the 1997 census of establishments published data on the average number of employees per establishment per sector thus allowing the estimation of the number of employees per sector, the 2004 wave does not provide this information.

4. **Inconsistent methodologies and definitions of key indicators** such as labour force participation, unemployment (as declared vs. based on ILO standards, etc.), working status (self-employed, employer, etc.). These inconsistencies stand in the way of making accurate comparisons between data produced by various sources.

5. **The fragmented nature of various sources of demand and supply** with no mechanisms of coordination such as a centralized labour exchange system. There is therefore a lack of intermediaries that can bridge the gap between supply and demand.

6. **Reluctance to share primary and often even secondary data** which allows the user to perform cross-tabulations based on need, or to select representative samples to undertake more recent surveys.

7. **The lack of transparency when it comes to the adopted methodologies of the various national surveys.** The absence of clear methodological notes that lay out sampling techniques, response rates, statistical units, included or excluded sub-populations, etc.

8. **The need for academic debate on the best way to quantify supply and demand in the Lebanese context, characterized by lack of data and inconsistencies.** There is currently a lack of a robust theoretical foundation for the development of a solid demand/supply forecast model which substitutes the weak/absent data with accurate proxy measures.

These obstacles may be addressed by a number of short and medium-term recommendations culminating in the development of a LMIS which pools all labour information in a user-friendly interface that is accessible to the public.

1. Developing a strategy for the production of national statistics including a schedule of regularly timed national surveys including household surveys, labour market surveys, poverty assessment surveys, household budget surveys, and most importantly a reasonably spaced population census, which forms the basis for all national statistics.

2. Establishing a dissemination strategy that maximizes access while setting data-sharing protocols and confidentiality standards that regulate the use of primary data.

3. Spreading a culture of information in various potential producers including various sectors of the economy (association of industrialists, chamber of commerce, various unions and professional syndicates, etc.). This may be done through workshops that increase the awareness of the importance of producing and sharing data along with the provision of technical support mainly by CAS to guarantee the quality and homogeneity of such data.

4. Performing periodic and consistent cohort studies or transition-to-work surveys at various levels, in addition to regular labour market surveys. So far, only one such study has been conducted since the civil war[39].

5. Developing a consumer and business confidence indicator which has the advantage of allowing frequent updates that fill the gaps between national surveys.

[39] CRI

Annexes

Annex 1 - Additional tables

Distribution of actual labour by attained level of education 2004

	Females	Males
Illiterate	3.6	4.8
Literate	2	5.4
Pre-school	0.3	1.1
Elementary	11.4	33.1
Intermediate	13.2	24.7
Secondary	20.6	14.6
University	34.1	15.9
Inapplicable	14.8	0.3
Total	100	100

Source: CAS 2004, Living conditions 2006

Distribution of employed by sector and work status (2004)

	Employer	Self-employed or getting help from household members	Employee with monthly salary	Employee with daily, weekly wage or based on production	Working with family or relatives. With/ without wage	Trainee	Total
Agriculture	10.7	14	0.5	15.5	22.1	0	7.5
Industry	22.3	10.9	14.7	20.8	19.8	15.6	15
Construction	13.9	10.7	2.2	27.8	6.4	5.5	8.7
Trade	32.3	33.5	15	15.2	41.2	15	22.1
Transportation, Post & Telecommunication	1.6	17.7	4	2.7	1.1	0	7.5
Services	19.1	13	60.1	17.4	8.6	63.9	37.4
Financial and monetary intermediation		0.1	2.6	0.3	0	0	1.4
Insurance	0.2	0.1	0.8	0.3	0.7	0	0.5
Inapplicable	0	0	0.1	0		0	0
Total	100	100	100	100	100	100	100

Source: CAS 2004, Living conditions 2006

Distribution of actual work force (15 and above) by sector of economic activity and gender (2007)

	Females	Males	Females & Males
Agriculture	4.6	8.1	7.2
Industry	10.1	15	13.8
Construction	0	7.4	5.6
Trade	15.6	25	22.6
Transportation, Post & Telecommunication	2.6	8.5	7
Services	64	34.2	41.6
Financial intermediation and insurance	3	1.8	2.1
No response	0.2	0.1	0.1
Total	100	100	100

Source: CAS 2008, Living conditions 2007.

Unemployed (15-64) by attained educational level (2004)

Attained educational level	Percentage (%)
Illiterate	2.7
Literate (read and write)	3.4
Pre-school	0.6
Elementary	27.6
Intermediate	26.2
Secondary	18
University	21.2
No response	0.2
Total	100

Source: CAS 2004, Living conditions 2006, Table 72, p. 209

Distribution of unemployed (aged 15 and above) according to primary means for job search

Primary means for job search	Percentage
Via acquaintance	72.5
Via newspapers and ads	13.3
Applying to employers	12.1
Via internet or e-mails	0.5
Via recruitment office	0.2
Via the national employment office	0.2
At workers assembly	0.4
Other	0.4
No response	0.4
Total	100

Source: CAS 2006, Living conditions 2004, Table 76, p.213

Distribution of unemployed (aged 15 and above) according to the time spent in job search

Time spent in job search	**Percentage**
Less than a month	5.4
1 to 2 months	15.6
3 to 5 months	19.6
6 months to 1 year	22.6
1 to 2 years	15.4
More than 2 years	18.8
No response	2.6
Total	**100**

Source: CAS 2006, Living conditions 2004, Table 77, p.214

Annex 2 - Quantification model of Labour Supply and Demand

The following section comprises the quantification of labour supply and demand in Lebanon and portrays their respective characteristics. The key objective of this model is to highlight the gaps in labour market information in Lebanon through the manipulation of available data and necessary assumptions. Therefore, the size of the supply and demand and the relevant labour market gap as estimated by the model is not by itself the objective of the exercise. The quantification, however significant, aims at examining and discussing information pertaining to labour supply and demand and the additional data required to enhance the quality of the current state of labour market information necessary for the development of an LMIS.

The estimation of the number of labour supply and demand is based on recent and available statistical data. In addition to available data, the model relies, whenever information gaps are identified, on a set of 16 assumptions based on related indicators and a series of in-depth interviews. The 16 assumptions were manipulated for the purpose of testing their reliability[40]. The results obtained from such manipulations did not significantly impact the results of the model which means that these assumptions reflect to a certain extent the actual condition of the labour market in Lebanon.

The first part of this section comprises the estimation of yearly labour supply based on the size of labour market entrants from schools, VTE establishments and universities. The second part consists of the estimation of labour demand based on the needs of new establishments, existing establishments and the identification of the new self-employed. The third and last part examines the resulting yearly gap between the estimated labour supply and demand.

1. Labour Supply

Labour supply consists of new entrants to the labour market which comprises students and graduates from universities, vocational and technical (VTE) establishments, and schools. The quantification and description of characteristics of these categories will be carried out separately taking into account the different socio-economic aspects of new entrants to the labour market.

1.1 New entrants to the labour market

Estimating the number of the new entrants to the labour market requires the identification of :

A) Students and graduates from universities;

B) Students and graduates from VTE establishments;

[40] The sensitivity analysis consisted of increasing or decreasing the size of assumptions and verifying the impact of the modification on the results. For instance, the estimated share of foreign students entering the labour market in Lebanon was increased from 25%, as it is adopted in the model, to 50%. As a result, the total number of university students and graduates who enter the labour market only increased from 19,947 to 20,605.

C) Baccalaureate degree holders and students who have dropped out from intermediate and secondary school.

A. Labour supply from universities

The objective of this section is to estimate the number of university graduates and students who can be considered as new entrants to the labour market. The quantification of labour supply derived from universities is based on the numbers of:

b) Lebanese graduates from universities in Lebanon
c) Non-Lebanese graduates from universities in Lebanon
d) BA/BS graduates pursuing postgraduate studies
e) University students who are seeking work

a) Lebanese graduates from universities in Lebanon

Graduates from universities in Lebanon constitute the central source of local labour supply. In the past few years, universities in Lebanon have significantly increased to 38 universities in 2008[41] knowing that only 25 universities existed in 1995[42] and 14 in 1972[43]. The number of graduates stood at **29,747** in 2008-2009 of which 78% have graduated from six universities which are the Lebanese University (LU), Beirut Arab University (BAU), Université Saint Joseph (USJ), American University of Beirut (AUB), American University of Science and Technology (AUST), and Lebanese American University (LAU)[44].

During the past years, the number of graduates from the Lebanese University has been significantly increasing (Figure 15). The Lebanese University holds alone 38% of total graduates in 2008-2009.

b) Non-Lebanese graduates from universities in Lebanon

In 1991-1992, non-Lebanese students constituted 31% of total enrollees in Lebanese universities. The share of non-Lebanese students dropped to 12% in 1999-2000 while the total number of enrollees has in general continued to increase. Since no data is available about non-Lebanese graduates, it is assumed that the share of non-Lebanese graduates in 2008-2009 is equal to the average share of non-Lebanese enrollees in the past six years. Accordingly, the share of non-Lebanese graduates was estimated in 2008-2009 at 13%. Based on this assumption, foreign graduates are estimated at around **3,880** versus 25,867 Lebanese graduates in 2008-2009.

[41] Center for Educational Research and Development, *Studies and statistics*, [Available online: www.crdp.org]

[42] Center for Educational Research and Development, *Comparative statistics of the development of education in 20 years* (in Arabic), Beirut.

[43] Center for Educational Research and Development, *Education Statistics year 1972-1973*, (in French - *Statistiques Pédagogiques Année 1972-197*3), Beirut.

[44] Center for Educational Research and Development, *Studies and statistics*, [Available online: www.crdp.org]

Assumption 1: Share of non-Lebanese graduates out of total graduates

Year	Lebanese enrollees	Non-Lebanese enrollees	Total	% of non-Lebanese enrollees
2009-2010	151489	29361	180850	16.2%
2008-2009	148978	25319	174297	14.5%
2007-2008	143291	23874	167165	14.3%
2006-2007	139025	21339	160364	13.3%
2005-2006	131070	15891	146961	10.8%
2004-2005	128619	12860	141479	9.1%
Assumption 1: Average share of non-Lebanese graduates				**13%**

Source: CERD, Center for Educational Research and Development, *Studies and statistics*, 2006-2007 [Available online: www.crdp.org]

However, it is assumed that not all foreign graduates (Palestinians, Syrians, Jordanians, etc.) leave the country upon the end of their studies and are considered as permanent residents in Lebanon. This share of foreign graduates living in Lebanon can be considered to be part of the labour supply of the country. Based on interviews with university professors, it is assumed that almost 25% of total non-Lebanese graduates or around **970** non-Lebanese graduates stay in Lebanon are new entrants to the labour market.

Assumption 2: Share of foreign graduates residing in Lebanon out of total foreign graduates

Number of foreign graduates in 2008-2009	3,880
Assumption 2: **Share of foreign graduates residing in Lebanon out of total non-Lebanese graduates**	**25%**
Number of non-Lebanese graduates residing in Lebanon	970

Source: CERD, Center for Educational Research and Development, *Studies and statistics*, 2006-2007 [Available online: www.crdp.org]

c) BA/BS graduates pursuing postgraduate studies

Not all Lebanese graduates can be considered as new entrants to the labour market. A number of Lebanese university graduates will not immediately enter the labour market and will probably pursue postgraduate studies. In order to estimate the number of these graduates, the share of BA/BS graduates who are likely to pursue their postgraduate studies should be identified. The share of BA/BS graduates is estimated at 89%. The share of those enrolled in year 5 out of those enrolled in year 4 was used to determine the share of BA/BS students who pursue postgraduate studies. This share was calculated at 29%. However, based on qualitative assumptions, the adopted share was set at 24%, taking into account that a share of BA students graduate at year 3 instead of year 4 due to the recent shift to the new curriculum (LMD[45]).

[45] License, Maitrise, Doctorat.

Assumption 3 and 4: Share of MA/MS graduates out of total university graduates

Year	Number of enrolled in university by year (2004)
Year 1	49,071
Year 2	44,073
Year 3	39,669
Year 4	29,075
Year 5	8,390
Year 6	4,435
Year 7	3,249
Total BA (years 1+2+3+4)	161,888
Total above BA (years 5+ 6+ 7)	16,074
Assumption 3:Share of MA/MS out of total (Year 7 out of Year 4)	**11%**
Share of BA/BS out of total (100%-11%)	**89%**
Number of BA/BS graduates in 2008-2009 (29,747 * 89%)	26,423
Share of BA graduates who pursue their studies out of total (Year 5 out of Year 4)	29%
Assumption 4: Adopted share of BA graduate who pursue their studies out of total	**24%**
Number (26,423 * 24%)	**6,341**

Source: For the number of university students by year: CAS, 2004, Livelihood

It was estimated that 89% of total graduates in 2008-2009 or 26,423 are BA/BS graduates of which 24% or **6,341** pursue their master studies and thus do not count as new entrants to the labour market (Table 9). Therefore, without the graduates who pursue their master studies and do not seek work (6,341), the number of new entrants drops to **19,526** graduates.

At this point, it is assumed that not all of these graduates (19,526) will be seeking work after graduation. Based on interviews with university professors, qualitative assumptions and a set of indicators such as the low inactivity rate of women in Lebanon which stands at 21% as opposed to men (67%) in 2004, it is assumed that 95% of male graduates and 80% of female graduates actually seek work and enter the labour market. Therefore, the total number of graduates who are considered to be new entrants to the labour market is estimated at **16,916** graduates.

Assumption 4 and 5: Share of graduates actually seeking work

a- Total graduates (after assumption 1,2,3 and 4)	19,526
b- Assumption 5: Share of male graduates seeking work	**95%**
c- Assumption 6: Share of female graduates seeking work	**80%**
d- Average share of students seeking work	87%
Total graduates seeking work (a x d)	**16,916**

d) University students who are seeking work

University enrollees who work and study at the same time are also part of the labour supply. According to CRI estimates and qualitative assumptions, 16% of undergraduate students and 24% of postgraduate students work and study at the same time. Thus the weighted average of total students working and studying at the same time is estimated at 16.7%

Assumption 7 Share of university students currently working

a- Total undergraduate students (from year 1 to year 4)	161,888
b- Assumption 7: Estimated share of undergraduate students working and studying	16%
c- Total postgraduate students (from year 5 and above)	**16,074**
d-Assumption 7: Estimated share of postgraduate students working and studying	**24%**
e- Weighted average of university students working and studying (a x b + c x d)/a + c	**16.7%**

In order to estimate the average yearly incremental of new current students seeking work, the share of working students was applied on the number of total Lebanese enrollees from 2004-2005 to 2009-2010 taking into account an estimated yearly growth of 5%. The average number of students seeking work per year is thus estimated at **1,738** students. It is to be noted that Lebanese University students who are seeking work can be full time workers knowing that the attendance at the Lebanese University is generally not compulsory[46].

Assumption 7 (cont'd): Incremental number of those who work and study among university students

Year	University enrollees	Average rate of students seeking work	Number of students seeking work	Yearly increase
2009-2010	151,489	16.7%	25,333	1,666
2008-2009	148,978	15.9%	23,667	2,042
2007-2008	143,291	15.1%	21,626	1,693
2006-2007	139,025	14.3%	19,933	2,080
2005-2006	131,070	13.6%	17,853	1,210
2004-2005	128,619	12.9%	16,643	
Average yearly incremental of university students seeking work				**1,738**

[46] As aforementioned, the students enrolled at the Lebanese university account for around 45% of total university students in Lebanon.

Source: For number of university enrolees, CERD, Center for Educational Research and Development, *Studies and statistics*, 2006-2007 [Available online: www.crdp.org]

Finally, after taking out the share of foreign graduates which travel back to their country (3880) and the number of BA graduates who decide to enroll in postgraduate studies and do not enter the labour market (6,341), and taking into account the foreign graduates who remain in Lebanon and seek work (970) and the yearly increment of university students seeking work (1,738), the number of university graduates who enter the labour market is estimated at **19,624**.

Total labour supply from university graduates

New entrants to the labour market from Lebanese universities graduates	Average pattern (2007-2009)
a) Number of university graduates	29,747
Assumption 1: Share of non-Lebanese graduates from total graduates (13%)	
b) Number of non-Lebanese university graduates	3,880
Assumption 2 Share of non-Lebanese graduates resident in Lebanon (25%)	
c)Number of resident non-Lebanese graduates resident in Lebanon	970
d) Subtotal 1 (a-b)	25,867
Assumption 3 and 4: Share of BA graduates who will pursue their MA studies (24%)	
e) Number of BA graduates pursuing their postgraduate studies	6,341
f) Subtotal 2 (d-e)	19,526
Assumption 5 and 6: share of graduates actually seeking work (87%)	
g) Number of graduates actually seeking work	16,916
Assumption 7: Share of university students seeking work (16.7%)	
h)Yearly increment of university students seeking work	1,738
Total new entrants to the labour market from university graduates (g+h+c)	19,624

B. Labour supply from VTE establishments

The second category of new entrants to the labour market comprises the students and graduates of VTE establishments. VTE consists of technical education and vocational training. Vocational training is based on manual and practical skills apart from an extensive theoretical knowledge. There are four levels of vocational training:

- Short term training
- CAP (*Certificat d'Aptitude Professionnel*)
- BP (*Brevet Professionnel*)
- SP Baccalaureat Professional – Dual System

Technical education requires a solid base in general education in addition to theoretical knowledge related to science and technology. Technical education comprises three levels:

- BT (Baccalaureat Technique)

- TS (Technicien Superieur)
- Applied Engineering and which was previously known as LT (License Technique) and the LET (License d'Enseignement Technique)

This section of the study will portray the size and the characteristics of labour supply from VTE graduates from public and private schools and according to the different levels of degrees.

a) VTE graduates

Graduates from VTE establishment constitute a major source of new entrants to labour supply in Lebanon. In 2008-2009, VTE students who graduated with official degrees stood at 13,956 graduates. The following table draws the distribution of VTE graduates according to the degree and year of graduation:

Distribution of graduates per degree and year of graduation

	1971-1972*	**1995-1996**	**2007-2008**
CAP (Certificat d'aptitude Professionnel)	214	310	268
BP (Brevet Professionnel)	435	874	2,792
SP(Baccalaureat Professional – Dual System)			229
BT (Baccalaureat technique)	1,111	4,501	5,816
TS (Technicien superieur)	523	1,211	3,566
LT (Licence technique)		23	1,148
LET (Licence d'Enseignement Technique)			138
TOTAL	**2,283**	**6,919**	**13,956**

* BT1 were included with BT and BT2 with TS

Source:- المركز التربوي للبحوث والإنماء، *المقارنات الإحصائية لمسار التطور التربوي خلال ٢٠ سنة ١٩٧٣-١٩٧٤/١٩٩٤-١٩٩٥*

(CERD, *The Development of the Educational Sector over a period of 20 years: Statistics and trends 1972-1973/1994-1995*). CERD, Center for Educational Research and Development, *Studies and statistics*, 2006-2007 [Available online: www.crdp.org]

It may be assumed that only a part of these graduates will immediately enter the labour market while another fraction will be pursuing their studies. Based on a set of indicators, the distribution of the new entrants to the labour market may be assumed as follows:

Assumption 8: VTE graduates entering the labour market

Level of Degree	**Number of graduates 2007-2008**	**% of graduates who enters the labour market**	**Number of graduates who enter the labour market**
CAP	268	70%	188
BP	2,792	60%	1,675
SP	229	60%	137

BT	5,816	60%	3,489
TS	3,566	80%	2,853
LT	1,148	90%	1,033
LET	138	90%	124
Total	**13,956**	**68%**	**9,499**

Source: CERD, Center for Educational Research and Development, *Studies and statistics*, 2007-2008
[Available online: www.crdp.org]

Based on the abovementioned assumptions, the share VTE graduates who enter the labour market is estimated at 68% of total graduates or around **9,499** individuals.

b) VTE students seeking work

The students who wish to work while studying must also be considered as new entrants to the labour market. It is assumed that the share of VTE students seeking work is slightly higher than the share of university students seeking work (16%) and stands at 20% of total VTE students (BT and TS). This estimated share of working students was applied on the number of total VTE enrollees (BT+TS) from 2004-2005 to 2009-2010 taking into account an estimated yearly growth of 5%. The average number of BT and TS students who enter the labour market each year is estimated at **2,310** students.

Assumption 9 Average yearly incremental of new VTE students seeking work

Year	Enrolled BT+TS	ratio	Students working	Difference
2009-2010	66,308	21%	13,861	(1035)
2008-2009	75,011	20%	14,896	723
2007-2008	75,127	19%	14,173	1,918
2006-2007	68,377	18%	12,254	860
2005-2006	66,926	17%	11,395	940
2004-2005	64,639	16%	10,455	
Assumption 7-Average yearly incremental VTE students seeking work				**2,310**

Source: CERD, Center for Educational Research and Development, *Studies and statistics*,
[Available online: www.crdp.org]

c) Students enrolled in three-month and one-year training sessions

In addition to official VTE degrees, students enrolled in three-month or one-year training sessions must be taken into account in the quantification of the new entrants to the labour market. The total number of enrolees in the three-month training sessions in various fields in 2007-2008 is 10,499. It is assumed that 90% of those enrolled in languages sessions, 80% of those enrolled in computer sessions and 25% of those enrolled in the remaining specialities are only acquiring skills and do not actually seek work. Thus only 36% of total enrolees or **3,771** are considered to be new entrants to the labour market. Similarly, there are 10,392 enrolees in one-year training sessions in various fields in 2007-2008. It is also assumed that 70% of those enrolled in languages sessions, 50% of those enrolled in computer sessions and 10% of those enrolled in the remaining specialities do not actually seek work. As a result, it is estimated that 80% of total enrolees in one-year training sessions or **8,472** students enter the labour market. In total, around **12,243** enrolees in the three-month and one year training sessions are considered as job seekers and part of the labour supply.

Though there is a common assumption that Lebanese are generally highly educated, there is nevertheless a considerable number of informal VTE graduates (12,200) in the labour market which even exceeds that of formal VTE graduates (11,809). This highlights the shortage of labour entrants holding formal education degrees and qualified skills. The accumulation over the years of labour market entrants without formal education and the necessary qualified skills will affect the quality of labour supply in the future.

Assumption 10: Share of students enrolled in three-month training sessions who are not job seekers

a)Total enrolled in three-month training sessions (2007-2008)	10,499
b) of which enrolled in language	2,882
c) of which enrolled in computer	4,054
Assumption 10: Rates of language students who are not job seekers	90%
e) Number of those not seeking work	2,594
Assumption 10: Rates of computer student who are not job seekers	80%
g) Number of those who are not seeking work	3,243
Assumption 10: Rates of the students of remaining specialties who are not job seekers	25%
h) Number of those who are not seeking work	891
Number of job seekers (a-e-g-h)	**3,771**
Share of job seekers out of total enrolled in 3 months	**36%**

Assumption 11: Share of students enrolled in one year training sessions who are not job seekers

a)Total enrolled in one-year training sessions (2007-2008)	10,392
b) o/w enrolled in language	932
c) o/w enrolled in computer	688
Assumption 11: Rates of language students who are not job seekers	**75%**
e) Number of those who are not seeking work	699
Assumption 11: Rates of computer students who are not job seekers	**50%**
g) Number of those who are not seeking work (c*f)	344
Assumption 11: Rates of the remaining specialties students who are not job seekers	**10%**
h) Number of those who are not seeking work	877
9) Number of job seekers (a-e-g-h)	**8,472**
Share of job seekers out of total enrolled in 3 months	82%

Total labour supply from VTE establishments

Labour supply from VTE establishments	Number
a) Formal VTE graduates	9,499
b) Formal VTE students seeking work	2,310
c) Informal VTE students in three-month and one-year training sessions	12,243
Total new entrants to the labour market from VTE establishments	**24,053**

C. Dropouts from intermediate and secondary education and baccalaureate degree holders

In addition to graduates and students of universities and VTE establishments, school dropouts from intermediate and secondary education are also considered to be potential new entrants to the labour market. Based on the Compulsory Education Study[47], in 1998 the average dropout rate of students enrolled in Intermediate 4, Secondary 1, 2 and 3 which do not enrol in VTE programs but rather enter the labour market is estimated at 5.2%. Based on this share, the number of dropouts from intermediate and secondary in 2008-2009 who do not enrol in VTE programs but enter the labour market is estimated at **9,405** out of a total number of enrolees of 181,848 .

Assumption 12: Average dropout rate from Intermediate 4, Secondary 1 and Secondary 2 in 1998

In intermediate 4	**Students**
sample of registered	881
o/w total dropout	243
o/w dropout	*64*
o/w towards VTE	*179*
Drop-out rate	*7.3%*
In Secondary 1	
sample of registered	527
o/w total dropout	47
o/w drop out	*23*
o/w towards VTE	*24*
Drop-out rate	*4.4%*
In Secondary 2	
sample of registered	461
o/w total dropout	27
o/w dropout	*20*
o/w towards VTE	*7*
Dropout rate	*4.3%*
In Secondary 3 (Bacc)	

[47] CRI & CERD. 2000. Compulsory Education in Lebanon: The need for Public Education, Beirut.

sample of registered	490
o/w total students who left school	407
o/w total gross drop out	407
o/w drop out	15
o/w shifting towards VTE and University or labour market	392
Drop out rate	3.1%
Assumption 12: Total dropout rate (weighted average)	**5.2%**

Source: CRI compulsory free education, The World Bank 1998

Assumption 12 (Cont'd) Number of dropouts job seekers

Total number of enrolled in (intermediate 4, secondary 1 and secondary 2)	181,848
Assumption 12: Dropout rate	**5.2%**
Number of dropouts job seekers	**9,405**

In addition, it is estimated that 25% of total baccalaureate degree holders (32,656) do not pursue university any undergraduate studies. Accordingly, it is estimated that 8,164 students who have obtained their baccalaureate degrees, enter the labour market immediately.

a) Students in Secondary 3	40,820
b) Share of students who obtain baccalaureate degree	80%
c) Number of students who obtain the baccalaureate degree (a x b)	32,656
d) Assumption 9: share of baccalaureate degree holder who do not pursue their studies and enter the labour market	**25%**
e) Number of baccalaureate degree holder who do not pursue their studies and enter the labour market (d x e)	8,164

As a result, the total number of new entrants to the labour market from schools as baccalaureate degree holders who do not pursue their studies in addition to intermediary and secondary education drop outs is estimated at 17,569.

Total Baccalaureate degree holders and dropouts from intermediate and secondary education who enter the labour market

a) Number of intermediary and secondary education drop outs	9,405
b) Number of baccalaureate degree holder who do not pursue their studies	8,164
c) Total Baccalaureate degree holders and dropouts from intermediate and secondary education who enter the labour market	17,569

Total Yearly Labour Supply

The total yearly supply is composed from university students and graduates, VTE students and graduates, dropouts from intermediate and secondary level and baccalaureate degree holders who do not pursue their studies. Based on the aforementioned estimations and assumptions due to the lack of necessary data, the total supply during an average pattern of 3 years (2007-2009) is estimated at 61,245 individuals seeking work. This estimation gives an idea about the size of the labour supply and its characteristics and sheds light on the necessary but unavailable labour market information.

Total new entrants to the labour market from universities and VTE establishments

New entrants to the labour market	**2008-2009**
University students and graduates	19,624
VTE students and graduates	24,053
Baccalaureate degree holders and dropouts from intermediate and secondary education who enter the labour market	17,569
Total	**61,245**

2. Labour Demand

The following section of the study comprises the estimation of the size of labour demand in Lebanon based on the average pattern of the past three years (2007-2009). The size of the demand is quantified based on three categories:

A- Demand from newly registered establishments
B- New self-employed workers
C- Demand from existing firms due to expansion

A- Demand from newly registered establishments

The size of the demand from newly registered establishments is estimated on the basis of two indicators: 1) the yearly average number of new establishments as they appear in the Business Register (2006-2008)[48] and 2) the average number of workers per establishment.

The average yearly number of establishments newly registered in the Business Register between 2006 and 2008 stands at 5,353 establishments. It is assumed that around 10% of these establishments are not currently operating which drops the total average of newly registered establishments to 4,818.

[48] CAS. Statistical Yearbook 2006, 2007, 2008. [Available online: http://www.cas.gov.lb/index.php?option=com_content&view=article&id=60&Itemid=74]. Accessed February 16, 2011.

Average number of newly registered establishments (2006-2008)
Source: CAS. Statistical Yearbook 2006, 2007, 2008.

Sectors of establishments	Average yearly number of newly registered establishments (2006-2008)
Industry	377
Construction	206
Trade	1,901
Tourism	225
Services	2,643
Total	5,353
Total * 10% of registered establishments but currently not operating	**4,818**

The labour demand for these 4,818 newly registered establishments is estimated based on the national average size of establishments. According to the 1997 Census of Establishments, the average size of establishment is estimated at 3 workers per establishment. Based on qualitative information obtained from stakeholders, it is assumed that around 20% of the newly registered establishments operate at first with less workers than of already established enterprises which drops the average size of newly registered establishments to 2.4 workers.

Assumption 13: Average size of establishments

National average size of establishments *	3 workers / establishment
Estimated share of newly registered establishments of smaller size	20%
Adopted average size of establishments (a x 100-b)	2,4 workers/establishment

*Source: CAS, 1997 Census of Establishments.

Taking into account the average number of newly registered establishments (4,818) and the average size of establishments (2.4 workers), the labour demand of these establishments is estimated at **11,563** workers (including employers and employees).

Average number of operating newly registered establishment (2006-2008)	4,818 establishments
Adopted average size of establishments	2.4 workers
Total labour demand (a x b)	**11,563** workers

B- New self-employed workers

The share of the new self-employed out of total labour demand is estimated based on the share of self-employed out of total workers excluding those counted in the new registered establishments. Taking into account different national surveys conducted between 1996 and 2007, the average share of self-employed out of total workers is estimated at 27.6%.

Source of National survey	Share of self-employed out of total workers
CAS Livelihood Survey 2007	23%
USJ Survey 2007	32%
CAS Livelihood Survey 2004	29%
USJ 2001 Survey	29%
CAS Livelihood Survey 1996	26%
Average	27.6%

At this point, it is important to note that a share of new self employed is already counted as part of the new registered establishments of a 1 worker size (formal self-employed). Therefore, in order to estimate the number of the new self-employed which are not comprised in the share of the new registered establishments, only the new informal self employed are counted in this category. According to the Micro and Small Enterprises study[49], 67% of total establishments are not registered and are considered as informal establishments as opposed to 33% of total establishments listed in the Business register. Therefore, the adopted share of the new self-employed is estimated at 18.5%.

Assumption 14: share of self-employed out of total workers

a- Average share of self-employed out of total workers	27.6%
b- Share of informal (not registered) one person establishments	67%
c- Adopted share of self-employed out of total workers (a x b)	18.5%

As a result, based on the calculated yearly labour supply (61,245) (excluding the unemployed)and the adopted share of the newly self employed (18.5%), the number of new self-employed is estimated at **11,342** individuals.

C- Net demand from existing establishments due to expansion

The third source of labour demand reflects the additional demand from existing establishments that have expanded and hence required additional labour force (net of the effect of establishments which retracted and laid off workers). This demand was quantified as follows:

The average yearly gross demand for employees (salaried workers) between 2002 and 2010 was calculated at 10,123 employees (Table).

Average gross additional demand for employees

Year	Employees	Yearly increase
2010	875,893	10,624
2009	865,269	10,496
2008	854,773	10,368

[49] Hamdan, K. 2004. *Micro and Small Enterprises in Lebanon*, Research Report Series n. 0417, Economic Research Forum.

2007	844,405	10,242
2006	834,163	10,118
2005	824,044	9,995
2004	814,049	9,874
2003	804,175	9,754
2002	794,420	9,636
2001	784,784	
Average incremental		**10,123**

Source: CRI estimations

This number includes workers employed by existing and new establishments. Since the demand of new establishments was previously accounted for, it needs to be deducted from this subtotal. However, the demand from new establishments (11,563) includes both employers and employees, while only the employee share can be deducted from the demand from existing enterprises (only salaried employees). The employee share was assumed to reach 62% of total demand by new establishments.

The average yearly gross demand by existing establishments is thus calculated at **2,963** individuals.

Additional labour demand of newly registered establishments	11,563
Share of employees out of total workers	62%
Number of employees in newly registered establishments	7,160
Yearly demand for employees by existing and new establishments	10,123
Yearly demand for employees by existing establishments	2,963

Total demand

Total demand from newly registered establishments, new self-employed workers and from expanding existing establishments is estimated at **25,868.**

Demand from newly registered establishments	11,563
New self-employed workers	11,342
Net demand from existing establishments due to expansion	2,963
Total Demand	**25,868**

9. Gap between labour supply and demand

The total gross yearly gap between the estimated labour supply and labour demand stands at 35,377 individuals seeking work.

Total gross yearly gap between labour supply and labour demand

a- Total yearly supply	**61,245**
b- Total yearly demand	**25,868**
c- Total gross yearly gap (a-b)	**35,377**

Following is the total yearly gap between labour supply and demand which stands at 35,640 examined through two additional assumptions:

- Total yearly migration, which reduces the actual gap
- Unemployment stock added up to the yearly gap

Total yearly migration

At this point, it is important to note that yearly migration of Lebanese actives for work purposes reduces the yearly gap between labour supply and demand. According to the USJ migration study[50], the average yearly rate of migration between 1992 and 2007 stands at 0.77% of total population, knowing that the share of workers out of total migrants is estimated at 70%. Applying these rates on total population aged 19 and above (68% of total population), the number of active migrants is estimated at **13,540** migrants. It is assumed that this share of the population exits the labour market in Lebanon seeking work abroad which reduces the gap between labour supply and demand in the country to **21,837** individuals.

Total net yearly gap

Total gross yearly gap between labour supply and demand	**35,377**
Total yearly migration	**13,540**
Total net yearly gap between labour supply and demand	**21,837**

Stock of unemployed

The stock of the unemployed, who are not first time job seekers, is added to the yearly gap between labour supply and demand. The grand total gap refers to the yearly labour gap in addition to the stock of unemployed.

The estimated stock of unemployed varies considerably in light of the adopted definition. According to CAS 2007 survey, the reported unemployment size stood at 179,026 individuals. The same survey adopts, in addition to the reported unemployment, ILO standards which defines unemployment at 110,000 individuals. Due to this substantial disparity between the two unemployment definitions, three scenarios of grand total gap, which comprises the unemployment stock, added to the estimated yearly gap (21,837), have been adopted:

[50] Kasparian, C. 2009. *L'Emigration des jeunes libanais et leurs projets d'avenir*, USJ. Beirut

Grand total gap (including unemployment stock)

	Scenario Low	Scenario Medium	Scenario High
Stock of Unemployed	110,000	144,513	179,026
Additional yearly Gap	21,837	21,837	21,837
Total unemployed	131,837	166,350	200,863
Active Population	1,287,000	1,287,000	1,287,000
Unemployment Rate (%)	10.2%	12.9%	15.6%

Source: For the unemployment stock: CAS, 2007

As a result the grand total gap between labour supply and demand varies between:
- A low scenario which adopts the unemployment stock according to ILO standards and stands at **131,837**individuals seeking work;
- A high scenario which adopts the unemployment stock as reported by the survey which sets the grand total at **200,863** individuals seeking work;
- A medium scenario based on the average of the two different adopted unemployment stock and stands at **166,350** individuals seeking work.

Conclusion

The results of the labour supply and demand model are summarised in the table below:

- The main categories of supply and demand are presented.
- Total supply is estimated at 61,245 and total demand at 25,868
- The yearly gap between the supply and demand is estimated at 35,377
- The yearly migration of workers, estimated at 13,540, reduces the yearly supply and demand gap to 21,837
- This yearly gap is then added to the stock of unemployed in order to determine total unemployment. Due to data discrepancies as aforementioned, three different estimation of the unemployed stock were adopted. The total unemployment is thus estimated at 131,837 based on the low scenario, at 166,350 in the medium scenario and at 200,863 in the high scenario.

This model is based on available labour market information in addition to assumption whenever the absence of data is discerned.

Model: Labour Market in Lebanon

Supply		Demand	
University students and graduates	19,624	New establishments	11,563
VTE students and graduates-Formal	11,809	New self-employed	11,342
VTE Graduates-Informal	12,243	Demand from existing enterprises	2,963
Drop out	17,569		
Total Yearly Supply	**61,245**	**Total Yearly Demand**	**25,868**

Total Gross Yearly Gap	**35377**
Total Yearly Migration	-13540
Total Net Yearly Gap	**21837**

	Scenario Low	**Scenario Medium**	**Scenario High**
Stock of Unemployed	110,000	144,513	179,026
Additional yearly Gap	21,837	21,837	21,837
Total unemployed	131,837	166,350	200,863
Active Population	1,287,000	1,287,000	1,287,000
Unemployment Rate (%)	10.2%	12.9%	15.6%

Annex 3 - List of meetings conducted

1-Mr. Castro Abdallah
Syndicate of Construction workers
December 9, 2011

2-Dr. Makram Sader
Secretary General
Association of Banks in Lebanon
December13, 2011

3- Dr. Riad Saade
General Director
Centre de Recherches et d'Etudes Agricoles Libanais
December 14, 2011

4- Mr. Paul Ariss
President of Lebanon's Restaurant Owners' Association
December 15, 2010

5- Mr. Elie Choueiri
Department of studies and coordination
Ministry of Agriculture
December 17, 2010

6- Mr.Saad Oueini
General Manager
Board of directors
Association of Lebanese Industrialists
January 18, 2011
(*Phone interview*)

7- Dr. Suleiman Haroun
Syndicate of Private Hospitals
January 19, 2011

8- Mr. Pierre Achkar
Syndicate of hotels in Lebanon
January 20, 2011

9- Mr. Raouf AbouZeki
Board of Directors
Chamber of Commerce, Industry and Agriculture of Beirut and Mount Lebanon

February 4, 2011

10- Mr. Hanna Gharib
Public secondary schools Teachers League in Lebanon
February 4, 2011

11- Dr. Ghassan Diba
Professor of Economy
Lebanese American University
February 4, 2011

Annex 4 - Checklist for the in-depth interviews

1. **Demand trends**
- Number of establishments
- Number of establishments intending to expand
- Number of establishments intending to liquidate
- Number of employees per sector
- Average expected new employment per year
- Average number of years with one employer (permanent and part-time workers)
- Age group of laid off workers
- Characteristics of credit facilities from commercial banks for expansion

2. **Distribution of employees**
- Average number of employees by establishment according to size
- Permanent to part time workers ratio
- Male to female ratio of workers
- Level of education of workers in the sector
- Main age group of workers in the sector

3. **Cost of Labour**
- Total average cost of labour per sector or establishment depending on size
- Ratio of foreigners to local workers
- Average wage (hour/category)

4. **Work conditions**
- Average formal versus informal labour rate
- Commercial, NSSF and tax authority registration
- Number of working hours per week and days per week

Annex 5 - Abstract of in-depth interviews per sector of activity

1. **Construction**

- The reasons behind the expansion of the construction sector:
  - The sector of construction is a very dynamic sector, linked to the culture of the country.
  - The different wars and aggressions: the destruction caused by wars in Lebanon has generated waves of reconstruction. It is mainly after the civil war and the July 2006 war.
  - The easiest sector for unskilled workers of low-income categories is the construction. It is an open sector for workers.
- In peak periods such as the aftermath of the civil war and the July 2006 war, the total number of construction workers has reached 70 000 to 100 000 workers. The recent peak period of reconstruction was registered between 2006 and 2009. However, since 2010, a recession took place and workers were laid off.
- Lebanese workers constitute around 20% of all workers in the sector. The demand on Lebanese construction workers is higher than the current labour supply as the Lebanese workers tend to leave the country and work in the Gulf region and the skills required for this sector have increased
- In terms of workers profile in this sector: Lebanese workers are the assistant architects and engineers or the supervisors who run the construction site teams. Whereas the basic workers are

usually foreigners and few are Lebanese. Conductors and drivers are also at 80% Lebanese and the workers who do the internal installations once the building is done are 75% foreigners

- There around 10 000 engineers – Lebanese of which 95% are male with an age that varies between 17 and 40.
- The basic worker earns around USD 20 a day
- The law of 1948, article 9, does not include construction workers in the NSSF However, the syndicate has forced some companies to include workers in the NSSF
- It took four years to publish in the official gazette the law of professional safety in the construction sector.

2. Agriculture

- Demand is not based on the real needs in the market
- Institutions with labour demand are the 1) administration; 2) NGOs dealing with agriculture; 3) International organisations such as the FAO; 4) Para-agricultural institutions such as Kafalat and 5) agricultural exploitation
- Since the seventies, agriculture in Lebanon has been facing difficulties. Traditional agriculture was no longer in line with the needs of the new century. Household heads have been selling their lands to feed and educate their families, which have led to the withdrawal of agriculture.
- The scientific and technical assistance to Lebanese agriculture and the support of the government has stopped even before the war.
- Labour in the agricultural sector must be observed in its duality: workers in traditional agriculture and workers in agricultural enterprises such as food industries. For instance, in dairy production, 15% of the production comes from traditional agriculture and 85% from enterprises.
- A strategy of agricultural development was carried out in 2002 and published in 2004
- A new agricultural census is conducted in 2010-2011. The results are to be published by the end of the year.

3. Services

- **Restaurants**

- The number of establishments is estimated at around 6,000 establishment (4,500 permanent and 1500 seasonal). In the four past years, around 1,500 establishments were created (80% in Beirut and the rest in Jbeil, Batroun, etc.)
- Around 15 pubs have closed their doors in Gemayzeh, due to the new regulations and the unavailability of parking lots.
- Following the July 2006 war, 40 Lebanese restaurants have sold around 400 franchises outside Lebanon and in Arab countries. This has led to the migration of around 10,000 professional (Chefs, assistant chefs, etc.). Lebanon witnessed a high demand for labour and insufficient supply. However in summer 2010, political instability has slowed down the business and reduced the profits by around 30%. It is expected that the demand will decrease in 2011 and 2012 and the supply will not be met.
- Micro-credit through Kafalat is a success. 80% of the new restaurant and café have taken loans from Kafalat. Commercial banks have no problem giving credits through Kafalat. There are now campaigns in Tripoli, Batroun and Hasbaya for Kafalat micro credit.
- The numbers of employees in the sector is estimated at around 180,000 employees with an average of 30 employees by establishment. 5% of the workers are foreigners

- The kitchen staff is at 95% males and the services staff is at 75% males (estimates)
- Managers have Bachelors and the services staff have VTE degrees
- Average age is 30. Most of workers are in the age category of 25 years old
- 145,000 workers in the entire services sector are registered in the NSSF. The rest is informal.
- In Beirut, the worker's contract is respected and only 8 hours are worked. The additional hours are not added on the salary but might be given as bonus.

- **Hotels**
  - According to the latest numbers published by relevant ministries, the tourism sector including rental cars, restaurant, seasonal establishments comprises 130,000 workers.
  - The sector faces various challenges: Schools and universities of hotel management in Lebanon are below European standards and there is a need for highly qualified teachers and professors. Education orientation prior to the enrolment in hotel management is lacking and not in line with the market demand. For instance there is a lack of top chefs.
  - Another problem facing the sector is the migration of hotel staff to work in Gulf countries. The trend is that the worker works for around two years in a Lebanese hotel to later on leave to the international hotels in the Gulf countries.
  - In this context, there is now a very high demand on labour in the hotel sector. The different departments are HR, F & B, reservations, control, buyers, account, finance, etc.
  - Quality of service and food in Lebanon is absent. A new hotel rating system has been introduced and will be implemented soon
  - There are 400 registered hotels in the syndicate. Whereas hotels in Beirut are increasing and round 500 to 1000 new rooms are created per year, hotels outside Beirut are decreasing. Family businesses are not easily surviving the pressure. The real estate peak has led to the selling of many hotels in order to take advantage of the value of the land which has recently increased
  - The political stability and security of the country often leads to around 20 % of growth. There is a 9% of interest on bank loans of a ceiling of 10 million dollars. The government and the banks support the interest by 7% and the investor will be left with 2%. However the political situation which has not be stable for the past 20 years now is not encouraging and render such deals to be very risky. More incentives must be given to investors
  - Number of employees in hotels: 22,000
  - Average number of years with one employer (permanent and part-time workers): 2 to 3 years. However, in hotels located outside Beirut, workers tend to stay longer. It is in Beirut that the high turnover is registered.
  - Male to female ratio of workers: 80 to 20 males to females and Ratio of foreigners to local workers: 5-10% of workers are foreigners
  - Level of education of workers in the sector: They are mostly BT graduates. Administrative employees, which constitute 15% of total workers of the sector, have usually BAs
  - Main age group of workers in the sector: 20 to 40 years old
  - Total average cost of labour per sector or establishment depending on size: 22- 24% of total revenues
  - Number of working hours per week and days per week: 40 hours per week

4. Health

- Minimal database on the hospital sector in Lebanon, admissions, beds, machines www.syndicateofhospitals.org.lb. Methodological limitation of the study: The information provided by hospitals during the survey was not checked by field supervisors in terms of consistency and validity which affects the quality of the survey
- 168 hospitals have now become 110 as many establishments have closed after the accreditation system being implemented.
- The number of beds has decreased in the past years due to shrinking and closure of hospitals. The need is very high in terms of intensive care beds. Demand on hospitals: 8,600 accredited beds private and public 1200 beds. The demand is high for Intensive Care beds. For instance in a 65 beds hospital, only 6 are for Intensive Care: Thus incentives must be given to hospitals in order to increase its IC beds from 6 to 10
- There are around 6 800 doctors_working in private hospitals. The supply of doctors is now exceeding the demand. However there is a high demand for the following specialities: nephrology, ER doctors, lab doctors, radiology. There are no foreign doctors in the sector as the syndicate in Lebanon imposes a fee of almost half a million dollar on foreign doctors which makes it impossible

- There are around 6,000 nurses. 10% of nurses are Palestinians and they are not registered in the syndicate of nurses. However they are registered in the NSSF. There aren't any other nationalities.
- It is to be noted that there is a double counting (around 20%) since nurses work in several hospitals in the same time. Hospitals tend to declare a higher number of nurses instead of giving the actual number and this in order to hide their weakness in terms of human resources. Thus 6,000 nurses is a good estimate to remove the errors. The demand for nurses is extremely high as there isn't enough nurses due to bad working conditions such as low salaries with an average wage of 700 USD , short life span of work (marriage).
- Nurses working hours per week are 42 hours per week.
- Quality involved administrative workers are now needed - Related to accreditation (ISO). From 2 to ten people are needed per hospital in Lebanon (500 job created). Supply is almost meeting the demand
- Ratio between Female and male among doctors are respectively 40 - 60 and 80 – 20 for nurses
- Main age group of workers in the sector: Nurses between 20 and 40
- Salaries of all the sector employees constitute 25 to 35% of hospital of revenues